SCHOOL OF APPLIED SCIENCES
DEPARTMENT OF COMPUTER INFORMATION SYSTEMS
MASTER PROGRAM

MODULE HANDBOOK

Course Unit Title	Master Thesis
Course Unit Code	CIS 500
Type of Course Unit	Compulsory
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	54 ECTS
Theoretical (hour/week)	-
Practice (hour/week)	-
Laboratory (hour/week)	-
Year of Study	2nd
Semester when the course unit is delivered	2nd 1st semester
Course Coordinator	Assoc.Prof.Dr. Nadire Cavus
Name of Lecturer (s)	All lecturers
Name of Assistant (s)	-
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Complete all courses
Recommended Optional Programme Components	Complete all courses

Objectives of the Course:

The objective of the Masters Thesis is to teach the students how to develop critical thinking and how to carry out research to design and develop an original software/hardware system.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn how to do literature search	3
2	Learn how to write a theoretical framework	3
3	Learn how to do original and critical thinking	3
4	Learn how to design and develop original software/hardware	3
5	Learn how to write a Thesis for original research and how to present this work	3,4

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	1
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1			

2			
3			
4			
5			
6			
7			Mid-term
8			
9			
10			
11			
12			
13			
14			
15			Final

Recommended Sources

Textbook: Students are asked to use the document during their Thesis: Thesis Writing Guidelines (2015), Near East University, Graduate School of Applied Sciences. (http://www.neu.edu.tr/docs/thesis-guidelines-eng.pdf)

Supplementary Material (s): How to Write a Master Thesis, Y.N. Bui, SAGE Publication, 2009.

Assessment

Presentation	20	
Ability to answer the questions	25	
Originality	10	
Introduction of topic	15	
Use of information sources	15	
Coverage of topic	15	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	-	-	-
Tutorials	-	-	-
Assignments	-	-	-
Project/Presentation/Report Writing	1	162	162
E-learning Activities	-	-	-
Research Report	-	-	-
Class discution	-	-	-
Preparation for Midterm	-	-	-
Midterm Examination	-	-	-
Preparation for Final	-	-	-
Final Examination	-	-	-
Total Workload			162
Total Workload/30 (h)			54
ECTS Credit of the Course			54

NEU, Department of Computer Information Systems

Course Unit Title	Seminar
Course Unit Code	CIS 502
Type of Course Unit	Compulsory
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	10 ECTS
Theoretical (hour/week)	-
Practice (hour/week)	-
Laboratory (hour/week)	-
Year of Study	2nd
Semester when the course unit is delivered	2nd 1st semester
Course Coordinator	Assoc.Prof.Dr. Nadire Cavus
Name of Lecturer (s)	Assoc.Prof.Dr. Nadire Cavus
Name of Assistant (s)	-
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Complete all courses
Recommended Optional Programme Components	Complete all courses

Objectives of the Course:

The objective of the seminar course is to teach students how to carry out literature search, how to carry out research, and how to write a technical report (including the writing of a technical paper).

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn how to do literature search using the Internet	3
2	Learn how to carry out research	3
3	Learn how to write a technical paper for a conference	3
4	Learn how to write a technical paper for a technical journal	3

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	4
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	3
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1		How to make literature search (e.g using library research engine etc.)	
2		How to write a technical report (abstract section, introduction section)	
3		How to write a technical report (related research section)	
4		How to write a technical report (methodology section)	
5		How to write a technical report (results section)	
6		Specify the subject of the Master Thesis	
7			Mid-term

8		How to write a technical report (discussion section)	
9		How to write a technical report (conclusion section)	
10		Discussion (Peer-review, scenarios, cooperative learning)	
11		Prepare the proposal of the Master Thesis	
12		How to carry out research (Plagiarism rules etc.)	
13		How to write standard references (APA etc.)	
14		Evaluate the proposal of the Master Thesis	
15			Final
16			Final

Recommended Sources

Textbook: Students are asked to use the following document during their Seminar courses: Thesis Writing Guidelines (2015), Near East University, Graduate School of Applied Sciences (http://www.neu.edu.tr/docs/thesis-guidelines-eng.pdf)

Supplementary Material (s): Fundamentals of Educational Research, J. Glanz, Rowman & Littlefield Publishers, 2005.

Assessment

Attendance & Assignment	5%	
Midterm Exam (class discussion)	20%	
Term Project	10%	
Oral examination	20%	
Final Exam (Presentation)	45%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	-	-	-
Project/Presentation/Report Writing	1	90	90
E-learning Activities	10	5	50
Research Report	7	10	70
Class discution	7	3	21
Preparation for Midterm	1	10	10
Midterm Examination	1	3	3
Preparation for Final	1	15	15
Final Examination	1	1	1
Total Workload			302
Total Workload/30 (h)			10.1
ECTS Credit of the Course			10

Course Unit Title	Advanced Database Management Systems
Course Unit Code	CIS 503
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Mustafa Menekay
Name of Lecturer (s)	Assoc.Prof.Dr. Mustafa Menekay
Name of Assistant (s)	Ömer Gümüş
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Database
Recommended Optional Programme Components	Basic background on database theories

Objectives of the Course:

The objective of this course is to provide students with a sound basis in PL/SQL programming and in particular the type of features available in a relational database. Equipped with this awareness and knowledge the student will be able to provide optimum solutions to software problems using not only the Oracle RDBMS but also any other relational database such as SQL*Server, MySQL and DB2.

Learning Outcomes

When this course has been completed the student should be able to	Assessment.
1	Learning outcomes in this course include, understanding the concept of database, knowing the principles of database design and being able to apply them to business problems; having a broad technical awareness of Oracle back-end database and the features it provides for solutions to various portfolio of projects.	1, 2, 3, 5

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5. Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	3
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	SQL*Plus environment and the data dictionary	
2	1	Spooling and Database Views	
3	2	Database Views and introduction to PL/SQL	
4	3	PL/SQL and Oracle data types	
5	4	Parameter passing in Oracle with introduction to Functions and	
6	4, 5	Functions and Procedures/ Revision	
7			Mid-term

8	6	Introduction to cursors	
9	7	Implicit and Explicit cursors	
10	8	Oracle function and there uses in data validation	
11	8	Transaction processing	
12	9	Dynamic SQL	
13		Lab Exercises	
14		Lab Exercises, Revision	
15			Final
16			Final

Recommended Sources
Textbook: Oracle PL/SQL Programming, 3rd Edition**,** S. Feuersdein & B. Pribyl, ISBN 0-596-00381-1, Publisher: O'Reilly
Supplementary Material (s): Oracle PL/SQL Programming Paperback 6rd Steven Feuerstein, Bill Pribyl, 2014, ISBN-13: 978-1449324452 ISBN-10: 1449324452

Assessment

Attendance & Assignment	10%	
Midterm Exam (Written)	35%	
Quiz (Written)	5%	
Final Exam (Written)	50%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	6	42
Project/Presentation/Report Writing	1	30	30
E-learning Activities	7	3	21
Research Report	7	5	35
Class discution	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	30	30
Final Examination	1	3	3
Total Workload			247
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Management Information Systems
Course Unit Code	CIS 504
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Ümit İlhan
Name of Lecturer (s)	Assist.Prof.Dr. Ümit İlhan
Name of Assistant (s)	Ahmet Hızlı
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Information Systems
Recommended Optional Programme Components	Basic background on Information Systems

Objectives of the Course:

This course gives general knowledge for about management information systems and their subsystems. Management information systems are strategy and action. In this course, students take discussed strategy side. So after define of management information systems and subsystems, students discuss the organization types, system and models, and decision making.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the basic terminology of management information systems	1
2	Learn the management information systems strategy	1
3	Learn the organization types, models, and decision making techniques	2, 3, 4

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program		
		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	3
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Definition of C.B.I.S.	
2	2	Transaction processing system. Discussing case.	
3	2	Transaction processing system. Discussing case.	
4	2	Transaction processing system. Discussing case.	
5	3	Information reporting systems	
6	4	Decision support systems- Office information system	

7			Midterm
8	5	Decision support systems- Office information system	
9	6	Discussing case – People and organization, Revision	
10	6	Discussing case – People and organization	
11	7	Discussing case – People and organization	
12	8	Systems and models	
13	9	Management and decision making for information systems,	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Management Information Systems, C. Parker, T. Case , ISBN 0-07-048573-9, Publisher: Mcgraw-Hill

Supplementary Material (s): Management Information Systems: Managing the Digital Firm 13th Nintendo, 2013, Ken Laudon , Jane P. Laudon, ISBN-13: 978-0133050691 ISBN-10: 0133050696

Assessment

Attendance & Assignment	10%	
Midterm Exam (Written)	40%	
Quiz (Written)	-	
Final Exam (Written)	50%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	5	20
Project/Presentation/Report Writing	1	30	30
E-learning Activities	7	5	35
Research Report	2	14	28
Class discussion	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	18	18
Preparation for Final	1	30	30
Final Examination	1	3	3
Total Workload			247
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Information Systems Security
Course Unit Code	CIS 505
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Fahreddin Sadıkoğlu
Name of Lecturer (s)	Prof.Dr. Fahreddin Sadıkoğlu
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Security
Recommended Optional Programme Components	Basic background on Information Systems

Objectives of the Course:

To provide an understanding of principal concepts, major issues, technologies, and basic approaches in information security. To provide concept-level hands-on experience in specific topic area. To provide the ability to examine and analyze real-life security cases.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Harden servers and clients	1
2	Recognize common attack patterns.	1
3	Evaluate vulnerability of an information system and establish a plan for risk	2, 5
4	Demonstrate how to detect and reduce threats in Web security.	2, 3, 4
5	Evaluate the authentication and encryption needs of an information system.	1

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	4
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Symmetric Ciphers	
2	2	Block Ciphers and the Data Encryption Standard	
3	3	Finite Fields	
4	4	Advanced Encryption Standard	
5	5	Advanced Encryption Standard	
6	6	Confidentiality Using Symmetric Encryption, Revision	

			Mid-term
7			Mid-term
8	6	Introduction to Number Theory	
9	7	Public-Key Cryptography and RSA	
10	8	Key Management; Other Public-Key Cryptosystems	
11	9	Message Authentication and Hash Functions	
12	10	Hash and MAC Algorithms	
13	11	Digital Signatures and Authentication Protocols	
14	12	Authentication Applications, Revision	
15			Final
16			Final

Recommended Sources

Textbook: In addition readings will also include technical articles, policy articles and general news article as well as Web sites that specialize in security.

Supplementary Material (s): Cryptography and Network Security (4th Edition) by William Stallings.

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	30%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	4	28
Project/Presentation/Report Writing	1	50	50
E-learning Activities	5	3	15
Research Report	4	8	32
Class discution	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	30	30
Final Examination	1	3	3
Total Workload			244
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Scientific Research Methods
Course Unit Code	CIS 506
Type of Course Unit	Compulsory
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1 st
Semester when the course unit is delivered	1 st or 2sd
Course Coordinator	Prof.Dr. İlkay Salihoğlu
Name of Lecturer (s)	Prof.Dr. İlkay Salihoğlu
Name of Assistant (s)	Eren Aspova
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Research Methods
Recommended Optional Programme Components	Basic background on Research Methods

Objectives of the Course:

The overall objectives of this course are:
1) To help students develop a thorough understanding of the fundamental theoretical ideas and logic of research. These fundamental ideas underpin the approach to research, the vast range of research methods available and the researcher's choice of methods.
2) To help students develop a thorough understanding of the issues involved in planning, designing, executing, evaluating and reporting research within the stipulated Calendar of the Near East University.

Learning Outcomes

When this course has been completed the student should be able to	Assessment.
1	To be able to do as teamwork.	1
2	To acquire information literacy in life-long learning.	1
3	To develop fundamental skills.	2
4	To build higher order thinking skills.	2
5	To acquire technical competencies.	1
6	To develop competencies related to specialized fields.	2,3
7	To build field specific competencies.	3

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	Apply the rules of scientific research and ethics to solve problems in structured manner with responsible and professional approach	3
2	Ability to design and setup advance computer networks as well as to analyse and find possible errors in such networks	5
3	Ability to apply structured critical thinking in problem solving, system design and choosing suitable computer software packages for an application	5
4	Ability to use advanced well known and accepted techniques and skills for the development of computer programs as well as database systems	5
5	Ability to write technical reports and technical papers and express their ideas, as well as gain oral presentation skills	3

6	Engage in lifelong learning by following the recent advances and innovations in computer information systems by searching and finding technical information to solve computer information based problems		3
7	Ability to advise, design, develop, and provide consultancy on advanced network and web based applications		2

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1 & 2	Introduction to evidence based practice	
2	6 & 7	Measurement	
3	10	Experimental design	
4	11	Quasi-experimental design	
5	8 & 5	Sampling for quantitative and qualitative studie	
6	9 &15	Survey design, Revision	
7			Mid-term
8	18 &19	Descriptive statistics	
9	20 & 21	Inferential statistics - effect sizes, number needed to treat, power and meta-analyses	
10	20 & 21	Inferential statistics - effect sizes, number needed to treat, power and meta-analyses	
11	12	Applying evidence and evaluating effectiveness	
12	-	Discussion (Peer review, small group work)	
13	13	One-on-one consultation on students' projects	
14		Revision	
15			Final
16			Final

Recommended Sources
Textbook: Kothari, C.R. (2006). Research Methodology: Methods and Techniques. New Delhi: New Age International Publishers.
Supplementary Material (s):
Rubin, A and Babbie, E. (2005). Research Methods for Social Work (5th Edition). Wadsworth/Thomson.
Kathleen, M. and Jonathan, W. (2011). How to Write Dissertations and Project Reports. Harlow UK: Pearson Education Ltd.

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	20%	
Oral Examination	5%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	10	30
Project/Presentation/Report Writing	1	30	30

E-learning Activities	7	5	35
Research Report	4	12	42
Class discussion	4	3	12
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8
ECTS Credit of the Course			8

Course Unit Title	Advanced Object-Oriented Programming in Java
Course Unit Code	CIS 507
Type of Course Unit	Compulsory
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Doğan Ibrahim
Name of Lecturer (s)	Prof.Dr. Doğan Ibrahim
Name of Assistant (s)	Doğuş Ertaç
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Algorithm
Recommended Optional Programme Components	Basic background on algorithms

Objectives of the Course

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn independently and collaboratively, practice higher levels of thinking, and communicate strategically for learning	1
2	Design and implement small programs during the laboratory sessions using appropriate theoretical frameworks	2
3	Examine the implementation of your software; make an improvement of your software by designing of user-designed classes for solving different domain problems	1, 3, 4

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	Chapter 1	Introduction	
2	Chapter 1	Java programming tools. Java applets and applications.	
3	Chapter 2	Program elements. Data types, control structures, arrays.	

4	Chapter 3	Classes, interfaces and packages. Design of user-defined classes, interfaces	
5	Chapter 4	Graphical user components. Events interfaces.	
6	Chapter 4	Layout managers and its classes, Revision	
7			Mid-term
8	Chapter 5	Exception handling. User-defined exception class	
9	Chapter 7	Multithreading	
10	Chapter 7	Animation	
11	Chapter 8	Input streams and reader classes	
12	Chapter 8	Output streams and writer classes. File classes	
13	Chapter 9	Database access. SQL classes.	
14	Chapter 10	Wrap-up and conclusions, Revision	
15			Final
16			Final

Recommended Sources
Textbook: Java: A Beginner's Guide, Herbert Schildt, Mcgraw-Hill Osborne Media; 6 edition, 2014.
Supplementary Material (s): Java Programming, Poornachandra Sarang, McGraw-Hill Osborne Media; 1 edition, 2012.

Assessment

Attendance& Assignment	10%	
Midterm Exam (Written)	30%	
Project & Presentation	10%	
Final Exam (Written)	50%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	5	35
Project/Presentation/Report Writing	1	30	30
E-learning Activities	7	3	21
Research Report	2	20	40
Class discution	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			240
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Mobile Application Development
Course Unit Code	CIS 508
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Nadire Cavus
Name of Lecturer (s)	Assoc.Prof.Dr. Nadire Cavus
Name of Assistant (s)	Atalay Talaykurt
Mode of Delivery	Face to Face E-Learning Activities
Language of Instruction	English
Prerequisites and co-requisites	Java
Recommended Optional Programme Components	Basic background on algorithms

Objectives of the Course:
- Understand the unique aspects of mobile application design.
- Work in resource sensitive and resolution variant environments.
- Develop applications with location awareness and hardware sensors.
- Understand the use of a mobile device API.
- Develop applications in a client-server environment

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	To develop Android programs that can access systems using SQLite. Also to develop Android programs.	3

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	About Android	
2	2	Installing the SDK	
3	3	Android Stack	
4	4	Creating a project	
5	5	Application context	
6	5	Text controls	
7			Mid-term
8	6	Parameters on Intents, Revision	

9	7	Prepare Proposal for Term Project	
10	8	Localization	
11	9	Options menu	
12	10	Alert dialog	
13	11	Custom dialog	
14		Revision	
15			Final Exam
16			Final Exam

Recommended Sources

Textbook: Professional Mobile Application Development, Jeff McWherter, Scott Gowell, Wrox; 1 edition, 2012.
Supplementary Material (s): Architecting Mobile Solutions for the Enterprise, Dino Esposito, Microsoft Press; 1 edition, 2012.

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	25%	
Quiz (Written)	5%	
Term Project	20%	
Final Exam (Written)	45%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	5	35
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	5	15
Research Report	7	5	35
Class discussion	7	3	21
Preparation for Midterm	1	16	16
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			240
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Software Engineering
Course Unit Code	CIS 509
Type of Course Unit	Compulsory
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr.Doğan Ibrahim
Name of Lecturer (s)	Prof.Dr.Doğan Ibrahim
Name of Assistant (s)	Sahar Tabrizi
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Object Programming Language
Recommended Optional Programme Components	Basic background on algorithm

Objectives of the Course:

The aim of this course is to give students an introduction to the principles and practice of software engineering. Through experience of building software systems in a team environment, students will learn how to create and test complex software systems. Students will familiarize themselves with the life-cycle of software development, including the important topics of software documentation, top down design approach, agile software development methodology, and legal aspects of software development. Additionally, students will learn to use various software modeling tools required for the successful development of a software project

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Understand the basic requirements and use of various tools in software engineering	1
2	Design and model complex software projects based on the agile methodology	1
3	Test the implement software projects using the defined tools and principles	2
4	Software documentation and project presentation	3

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to Software Engineering and team working	
2	2	Software project Planning (Lifecycle model) and methods	
3	3	Software Requirements and the Waterfall Model	
4	4	RUP, prepare proposal for term project	
5	5	UML Modeling and Modeling Analyis/ Visual Pradagim	
6	6	Introduction to the Agile methodology and its principles	

			Mid-Term
7			Mid-Term
8	7	Applying the Agile methodology to software development. Scrum, Kanban,	
9	8	Practical examples of using the software development tools	
10	9	Interaction Modeling: Sequence diagram, Swim-lane diagram Mid-Term	
11	10	System Implementation: User Interface Design and Software Design Standards	
12	10	System Implementation: Verification and validation of software systems, legal issues	
13		Discussion (Small group work, debate)	
14		Project Presentation	
15			Final
16			Final

Recommended Sources

Textbook: Software Engineering: A Practitioner's Approach, Roger S. Pressman, 5th edition, ISBN:0-07-365578-3
Supplementary Material (s): Software Engineering 9th, Ian Sommerville, 2010, ISBN-13: 978-137035151 ISBN-10: 0137035152

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	20%	
Oral examination	5%	
Final Exam (Written)	40%	
Term Project	30%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	15	45
Project/Presentation/Report Writing	1		45
E-learning Activities	4	3	12
Research Report	3	12	36
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8.07
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Object Oriented Programming Languages
Course Unit Code	CIS 510
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Rahib Abiyev
Name of Lecturer (s)	Prof.Dr. Rahib Abiyev
Name of Assistant (s)	Ömer Gümüş
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Algorithm
Recommended Optional Programme Components	Basic background on algorithm

Objectives of the Course:

Introduces students to advances in programming concepts and techniques. Topics include the development and documentation of logic, syntax, programming control structures, data structures, programming paradigms, and a survey of modern programming languages. Focuses on the problem solving process as it applies to the development of computer programs. In a hands-on environment, students will design, code, and test simple programs.

Learning Outcomes

When this course has been completed the student should be able to		Assessment.
1	Gain an understanding of how types, classes, and objects are related	1
2	Write statements that call methods and to write their own class methods	1,5
3	Learn to create classes	2,5
4	Understand control structures that alter the sequential flow of execution	2,5
5	Describe how to declare and perform compile-time initialization of array elements	1,5
6	Understand multidimensional arrays and other collection classes, including stacks, queues, and hash tables	2,5
7	Create class library files	2,5
8	Understand debugging and exception handling techniques	2,5
9	Explore how the design of Web-based applications differs from Windows applications	3,4

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to Computing and Programming	
2	2	Data Types and Expressions	
3	3	Methods and Behaviors	
4	4	Creating Your Own Classes	
5	5	Making Decisions	
6	6 & 7	Repeating Instructions, Arrays, Revision	
7			Mid-term
8	8	Advanced Collections	
9	9	Introduction to Windows Programming	
10	10	Programming Based on Events	
11	11	Advanced Object-Oriented Programming Features	
12	12	Debugging and Handling Exceptions	
13	13	Working with Files, Database	
14	14 &15	Web-Based Applications, Revision	
15			Final
16			Final

Recommended Sources

Textbook: Pecinovsky, R. (2013). OOP: Learn Object Oriented Thinking and Programming . Eva & Tomas Bruckner Publishing, ISBN-13: 9788090466197

Supplementary Material (s):

Barbara, D. (2014). C# Programming: From Problem Analysis to Program Design, 4th Ed., Cengage Learning, ISBN 978-1-285-09626-1.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	6	42
Project/Presentation/Report Writing	1	75	75
E-learning Activities	2	5	10
Research Report	2	5	10
Class discussion	5	1	5
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	30	30
Final Examination	1	4	4
Total Workload			251
Total Workload/30 (h)			8.4
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Ethical Issues in Information Systems
Course Unit Code	CIS 511
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	-
Laboratory (hour/week)	-
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Nadire Cavus
Name of Lecturer (s)	Assoc.Prof.Dr. Nadire Cavus
Name of Assistant (s)	Umut Zeki
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Information Systems
Recommended Optional Programme Components	Basic background on Information Systems

Objectives of the Course:

Demonstrate an understanding of how computing and information systems give rise to social issues and ethical dilemmas Demonstrate an ability to discuss the benefits offered by computing technology in many different areas and the risks and problems associated with these technologies Demonstrate an understanding of some social, legal, philosophical, political, constitutional, and economical issues related to computers and the historical background of these issues.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Understanding ethical and social issues related to systems	1,5
2	Ethics in an information society	1,3,4
3	The moral dimensions of information systems	2
4	Hands-on mis	2

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	3
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Course Themes, Professional Ethics	
2	2	Errors, Failures, and Risks	
3	3	Privacy	
4	4	Freedom of Speech	
5		Presentations	
6		Revision	
7			Midterm
8	5	Intellectual Property, Presentations	

9		Presentations	
10	6	Intellectual Property, Computer Crime	
11	7	Technology and the Workplace, Presentations	
12	8	Evaluating Technology, Presentations	
13		Other topics as time permits	
14		Revision	
15			Final Exam
16			Final Exam

Recommended Sources

Textbook: Queen, M.J. (2012). Ethics For The Information Age.5th Edition, Publisher: Addison Wesley
Supplementary Material (s):
Baase, S. (2013). A Gift of Fire: Social, Legal, and Ethical Issues for Computing Technology. 4th Edition ,Pearson

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	20%	
Oral examination	10	
Term Project and presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	5	15	75
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	1	3
Research Report	3	7	21
Class discution	3	3	9
Preparation for Midterm	1	20	20
Midterm Examination	1	4	4
Preparation for Final	1	25	25
Final Examination	1	4	4
Total Workload			248
Total Workload/30 (h)			8.3
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	IT Project Management
Course Unit Code	CIS 512
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Doğan Ibrahim
Name of Lecturer (s)	Prof.Dr. Doğan Ibrahim
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Software Engineering
Recommended Optional Programme Components	Basic background on Software Engineering

Objectives of the Course:
- Understand and articulate the importance of Project Management in any business project
- Clearly define project objectives
- Create a project Work Breakdown Structure
- Develop a manageable project schedule
- Understand scope creep and change control
- Use tools and techniques to manage a project during execution

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Understand what Project Management is	1,2
2	Understand the importance of Project Management	1,2
3	Learn how to manage a software project	1
4	Learn how to use computer aided Project Management tools	1,5

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to Project Management	
2	4	Project Integration Management	
3	5	Project Scope Management	
4	6	Project Time Management	
5	8	Project Quality Management, Revision	

6		Discussion (Small group work, case-study, debate)	
7			Mid-term
8	9	Project Human Resource Management	
9	10	Project Communications Management	
10	11	Project Risk Management	
11	14	Project Audit and Closure	
12	6 &11	Workshop – CPM and Risk Management	
13	9	Workshop – Team Building	
14		Students projects presentation, Revision	
15			Final
16			Final

Recommended Sources

Textbook: Schwalbe, Kathy. Managing Information Technology Projects. Thomson Course Technology 2009 Sixth Edition.

Kerzner, Harold, Project Management Case Studies, 3rd Edition ISBN: 978-0-470-27871-0

Supplementary Material (s):

Saladis, Frank. And Kerzner, Harold. Bringing the PMBOK Guide to Life : A Companion for the Practicing Project Manager ISBN: 978-0-470-19558-1

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	20%	
Oral examination	10%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	12	84
Project/Presentation/Report Writing	1	40	40
E-learning Activities	-	-	0
Research Report	1	7	2
Class discution	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			240
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Computer Networks
Course Unit Code	CIS 513
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Dogan Ibrahim
Name of Lecturer (s)	Prof Dr Dogan Ibrahim
Name of Assistant (s)	Doğuş Sarıca
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Computer Networks
Recommended Optional Programme Components	Basic background on Computer Networks

Objectives of the Course:

To understand (a good slice of) the state-of-the-art in network architecture, protocols, and networked systems, and to understand how to conduct networking research and develop innovative ideas.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the basic network elements	1
2	Learn the architecture of computer networks	1,2
3	Learn how to setup a simple computer network	1,5
4	Learn how to setup an advanced computer network	1,5
5	Understand the problems in computer networks and how to solve these problems	1,5

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	TCP/IP Implementation Overview.	
2	2	UDP/TCP Code Walkthrough.	
3	3	TCP Implementation Walkthrough.	
4	4	Simple Queuing Theory.	
5	5	Modeling Networks. Network Simulation Tools.	
6	5	Modeling Networks. Network Simulation Tools.	
7			Mid-term

8	6	Multimedia Applications. Digital audio and video. Revision	
9	7	High-Speed, Integrated Services Networks. ATM, Label Switching	
10	8	Mechanisms and protocols for QoS.	
11	9	Multicast Routing Protocols.	
12	10	Web Performance Issues	
13	11	Various Topics: ALF, ILP.	
14	11	Various Topics: ALF, ILP., Revision	
15			Final Exam
16			Final Exam

Recommended Sources

Textbook: Wright, G., and Stevens, W., (1996). TCP/IP Illustrated, Volume 2.Addison-Wesley.
Supplementary Material (s): Forouzan, B.A. (2004).Data Communications and Networking, 3/e, ISBN: 0072515848.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	5	10	50
Project/Presentation/Report Writing	1	40	40
E-learning Activities	3	12	36
Research Report	2	12	24
Class discussion	7	2	14
Preparation for Midterm	1	17	17
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			249
Total Workload/30 (h)			8.3
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced E-Learning Systems
Course Unit Code	CIS 514
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr.Nadire Cavus
Name of Lecturer (s)	Assoc.Prof.Dr.Nadire Cavus
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Information Systems
Recommended Optional Programme Components	Basic background on Information Systems

Objectives of the Course:

The main objective of this course is to teach the principles of advanced e-learning systems and how to setup such systems for practical applications.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the basic principles of e-learning systems	1
2	Learn how to setup and configure an e-learning system	1,5
3	Understand the problems of setting up and using an e-learning system	1,5

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Teaching Online: An Overview	
2	2	Scouting the Territory: Exploring Your Institution's Resources	
3	3	Course Design and Development	
4	4	Working with Others to Develop a Course	
5	5	Creating an Effective Online Syllabus	
6	6	Building an Online Classroom	
7			Mid-term
8	7	Student Activities in the Online Classroom	
9	10	Preparing Students for Online Learning	

10	11	Classroom Management and Facilitation	
11	12	Classroom Management: Special Issues	
12	13	Teaching Web Enhanced and Blended Classes	
13	14	Taking Advantage of New Opportunities	
14	15	Revision	
15			Final
16			Final

Recommended Sources

Textbook: E-learning in the 21st Century: A Framework for Research and Practice, D.R. Garrison, Routledge, 2011.

Supplementary Material (s): Teaching Online: A Practical Guide, S. Ko and S. Rossen, Routledge, 2010.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	20%	
Oral examination	10%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	5	35
Project/Presentation/Report Writing	1	44	44
E-learning Activities	7	3	21
Research Report	2	14	28
Class discussion	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Operating Systems
Course Unit Code	CIS 515
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Dr. Zafer Ataser
Name of Lecturer (s)	Dr. Zafer Ataser
Name of Assistant (s)	Ahmet Hızlı
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Operating Systems
Recommended Optional Programme Components	Basic background knowledge on OS

Objectives of the Course:
- Understanding how an OS works
- Relationship between hardware and OS
- To have information about different kind of OS and their working principles

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Understand OS's structure	1,2,3,4
2	Using OS	1,5
3	Using OS's with real examples	2,5
4	Using Linux	2,5
5	Using Windows	1,5
	Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work	

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	3
	CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)	

Course Contents

Week	Chapter		Exams
1	1	Introduction, General definition and history	
2	2	Processor Scheduling, Scheduler, Performance	
3	2	Processor Scheduling, Algorithms, FCFS	
4	2	Processor Scheduling, SPF	
5	2	Processor Scheduling, SRTF, RRS, Priority	
6	3	Memory Management, Partitioning, Revision	
7			

8	3	Memory Management, Paging, Segmentation	Mid-term
9	4	Virtual Memory	
10	4	Virtual Memory	
11	5-6	Deadlocks, Interprocess Communication	
12	6-7	Interprocess Communication, Unix for	
13	8	Unix Shell	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Operating Systems: Principles and Practice, Thomas Anderson, Michael Dahlin, Recursive Books; 2 edition, 2014.
Supplementary Material (s): The Design of the UNIX Operating System, Maurice J. Bach, Prentice Hall; 1st edition, 1986.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	2	6
Research Report	2	15	30
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			250
Total Workload/30 (h)			8.3
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Knowledge Management
Course Unit Code	CIS 516
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	-
Laboratory (hour/week)	-
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Mustafa Sağsan
Name of Lecturer (s)	Assoc.Prof.Dr. Mustafa Sağsan
Name of Assistant (s)	Eren Asvapa
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Information Management
Recommended Optional Programme Components	Basic background on Information Management

Objectives of the Course:

The goal of the course is to prepare the students to become familiar with the current theories, practices, tools and techniques in knowledge management (KM), and to assist students in pursuing a career in the information and knowledge sector for both profit and not for profit organizations. In addition, students will learn to determine the infrastructure requirements to manage the intellectual capital in organizations. This course also emphasize the importance of tacit knowledge which can be evaluated as a highly competitive intangible asset of organizations.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	The students will provide the opportunity for establishing knowledge management infrastructure in organizations.	1,2
2	The students will manage the processes of knowledge in organizations such as creating, sharing, structuring, using and auditing.	2,3
3	Intangible assets are going to play an important role at the strategic level such as reputation, trademarks, copyrights, patents, and etc.	3,4

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	3
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to Knowledge Management	
2	2	Philosophical Perspectives on Knowledge	
3	3	Organizational Learning	

4	4	Knowledge Management Tools	
5	5	Knowledge Management Systems	
6	6	Strategic Management Perspectives, Revision	
7			Mid-term
8	7	Knowledge Management and Culture	
9	8	Change Management	
10	8	Change Management	
11	9	Knowledge Management and the Learning Organization	
12	10	Intellectual Capital	
13	10	Intellectual Capital	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Davenport, Thomas and Laurence Prusak. Working Knowledge: How Corporations Manage What They Know. Boston: Harvard Business School Press. 1998. (ISBN: 0-87584-655-6)

Koenig, Michael E. D. And T. Kanti Srikantaiah (eds.) Knowledge Management Lessons Learned: What Works and What Doesn't. Medford, N.J., Information Today. 2004. (ISBN: 1-5738. 7-181-8)

Supplementary Material (s): Supplementary readings will be recommended at the beginning of each segment from the comprehensive Knowledge Management Bibliography.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project &Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	15	45
Project/Presentation/Report Writing	1	55	55
E-learning Activities	-	-	0
Research Report	2	15	30
Class discussion	5	3	15
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	30	30
Final Examination	1	3	3
Total Workload			243
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Innovations Management
Course Unit Code	CIS 517
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	-
Laboratory (hour/week)	-
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Mustafa Sağsan
Name of Lecturer (s)	Assoc.Prof.Dr. Mustafa Sağsan
Name of Assistant (s)	Eren Asvapa
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Knowledge Management
Recommended Optional Programme Components	Basic background on knowledge management

Objectives of the Course:

This course will enable students to develop an understanding of analytic frameworks for managing the innovation process. In particular students will be able to examine the patterns and sources of technological change and the mechanisms for capturing the economic benefits from innovation as well as to identify the strategic and organizational challenges involved in managing technological innovation.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Definitions and concepts of invention, design, research, technological development and innovation	1
2	Main models and types of innovation product innovation, process innovation, continuous innovation and etc.	1
3	Managerial strategies to shape innovative performance	2
4	Tools of innovation management to map out and measure innovative activities	2,3,4
5	Diagnosis and effective solutions of innovation challenges in the context of creativeness	1

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	3
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Managing Technological Innovation	
2	1	Managing Technological Innovation	
3	2	Innovation Processes	
4	3	Innovation Strategy	

5	3	Innovation Strategy	
6	4	Networks & Communities of Innovation, Revision	
7			Mid-term
8	5	Research & Development	
9	6	Design and New Product	
10	6	Service Development	
11	7	Operations	
12	8	Delivering Value	
13		Students project presentation	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Dodgson, M. Gann, D. And Salter A. The management of technological innovation: strategy and practice, Oxford University Press, 2008.
Melissa Schilling: Strategic Management of Technological Innovation, McGrawHill, International Edition 2011.

Supplementary Material (s): Fabry D., Ernst H., Langholz J., and Koster M. (2006) "Patent portfolio analysis as a useful tool for identifying R&D and business opportunities—an empirical application in the nutrition and health industry", World Patent Information 28, pp. 215–225.
Mogee, M. E. (1991). Using patent data for technology analysis and planning. *Research Technology Management*, pp. 43-49.
Narin, F. (2001). Assessing Technological Competencies. *From Knowledge Management to Strategic Competence*, Editor J. Tidd , Imperial College Press, p. 155-196.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	2	17	34
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	4	4
Preparation for Final	1	25	25
Final Examination	1	4	4
Total Workload			250
Total Workload/30 (h)			8.3
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Total Quality Management
Course Unit Code	CIS 546
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	
Name of Lecturer (s)	
Name of Assistant (s)	
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	
Recommended Optional Programme Components	

Objectives of the Course:

- Understand the concepts of total quality management
- Understand the quality management models
- Understand the performance measurement and improvement cycle
- Understand the concepts of total quality management system design
- Understand the importance of communication in total quality management

Learning Outcomes

When this course has been completed the student should be able to		Assessment.
1	Learn the concepts of total quality management	1
2	Learn the quality management models	1
3	Learn the importance of leadership in management	1,2
4	Learn the performance measurement techniques in management	1

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5. Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	3
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Understanding quality, competitiveness and customers	
2	2	Total quality management concepts	
3	3	Leadership in management	
4	6	Design for quality	
5	7	Performance measurement tools	
6	8	Importance of audits and reviews/ Revision	
7			Mid-term

8	12	Quality management systems	
9	13	Continuous design and improvement	
10	-	Discussion (Decision making (forked road, possibilities, factors))	
11	16	Human resource management	
12	17	Team work and team development strategies	
13	18	Communication is quality management	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: J.S. Oakland, Total Quality Management and Operational Excellence, Routledge (2014)

Supplementary Material (s): B.G. Dale, T. Wiele, and J. Iwaarden, Managing Quality, Wiley-Blackwell (2007)

Assessment

Attendance & Assignment	10%	
Midterm Exam (Written)	20%	
Oral examination	10%	
Final Exam (Written)	60%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	15	45
Project/Presentation/Report Writing	-	-	-
E-learning Activities	3	3	9
Research Report	6	15	90
Class discussion	5	3	15
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8.1
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Soft Computing
Course Unit Code	CIS 521
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Mustafa Menekay
Name of Lecturer (s)	Assoc.Prof.Dr. Mustafa Menekay
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Object Oriented Language
Recommended Optional Programme Components	Basic background on Programming

Objectives of the Course:

The objective of this course is to teach basic neural networks, fuzzy systems, and optimization algorithms concepts and their relations.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Implement numerical methods in soft computing	1
2	Explain the fuzzy set theory	1
3	Apply derivative based and derivative free optimization	2
4	Discuss the neural networks and supervised and unsupervised learning networks	2
5	Comprehend Neuro Fuzzy modeling	1,3,4
6	Demonstrate some applications of computational intelligence	5

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	4
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to Neuro – Fuzzy and Soft Computing	
2	3	Fuzzy Sets	
3	3	Fuzzy Rules and Fuzzy Reasoning	
4	4	Fuzzy Rules and Fuzzy Reasoning	
5	6	Fuzzy Inference Systems	
6	7	Derivative – Based Optimization, Revision	

7			Mid-term
8	7	Derivative – Free Optimization	
9	11	Supervised Learning Neural Networks	
10	12	Unsupervised Learning Neural Networks	
11	12	Adaptive Neuro – Fuzzy Inference Systems	
12	13	Adaptive Neuro – Fuzzy Inference Systems	
13	18	Coactive Neuro – Fuzzy Modeling	
14	19	Applications, Revision	
15			Final
16			Final

Recommended Sources

Textbook: J. S. R. Jang, C. T. Sun and E. Mizutai, "Neuro-Fuzzy and Soft Computing", 1997.

Supplementary Material (s): Timothy J. Ross, "Fuzzy Logic with Engineering Applications", McGraw-Hill, 1997.
 Zioluchian Ali, Jamshidi Mo, "Intelligent Control Systems Using Soft Computing Methodologies", CRC Press, 2001.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	12	48
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	2	20	40
Class discussion	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			247
Total Workload/30 (h)			8.2
ECTS Credit of the Course			8

Course Unit Title	Wireless and Mobile Networks
Course Unit Code	CIS 522
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Fahreddin Sadıkoğlu
Name of Lecturer (s)	Prof.Dr. Fahreddin Sadıkoğlu
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Computer Networks
Recommended Optional Programme Components	Basic background on Computer Networks

Objectives of the Course:
- Describe the characteristics and operation of contemporary wireless network technologies such as the IEEE 802.11 wireless local area network and Bluetooth wireless personal area network;
- Describe the operation of the TCP/IP protocol suite in a mobile environment, including the operation of Mobile IP and a mobile ad hoc routing protocol;
- Modify an existing implementation of a protocol to alter functionality or performance;
- Use middleware application program interfaces (APIs) to realize mobile applications;
- Design, implement, and test a prototype mobile application;
- Measure and characterize the performance of a wireless local area network, mobile routing protocol, and mobile application; and
- Monitor the operation of mobile network protocols and applications using standard tools.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the principles of various network systems	1
2	Learn how to setup a wireless network	1,5
3	Learn how to program a wireless network	1,3,5
4	Learn the basic network protocols	1
5	Learn how to monitor wireless networks	1,5
	Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work	

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	5
	CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)	

Course Contents

Week	Chapter		Exams

1	1	Introduction	
2	2	Introduction to mobile radio propagation for computer engineers	
3	2	Introduction to mobile radio propagation for computer engineers	
4	3	Introduction to mobile radio propagation for computer engineers	
5	4	Multiple division techniques	
6		Revision	
7			Mid-term
8	5	Multiuser detection techniques	
9	6	Introduction to information theory for computer engineers	
10	6	Introduction to information theory for computer engineers	
11	7	Introduction to channel coding for computer engineers	
12	7	Introduction to channel coding for computer engineers	
13	8	Selected topics from next generation wireless networks	
14		Project presentations, Revision	
15			Final
16			Final

Recommended Sources

Textbook:
There is no required textbook for this course. The required materials will be provided during the course.

Supplement articles and class Power Point slides will be provided regularly.
Supplementary Material (s):
Dharma P. Agrawal and Qing-An Zeng. (2002). Introduction to Wireless and Mobile Systems , 1st Edition, Brookscole.

Theodore S. Rappaport, (2002). Wireless Communications: Principles and Practice, 2/e, Prentice Hall.
Lee, W. Mobile Communications Design Fundamentals, 2nd edition, John Wiley & Sons.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	40	40
E-learning Activities	-	-	-
Research Report	2	15	30
Class discussion	10	3	30
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			248

Total Workload/30 (h)	8.3
ECTS Credit of the Course	8

Course Unit Title	Human Resource Management
Course Unit Code	CIS 524
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Şerife Eyyüpuğlu
Name of Lecturer (s)	Assoc.Prof.Dr. Şerife Eyyüpoğlu
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Management
Recommended Optional Programme Components	Basic background on management

Objectives of the Course:

This course is a detailed examination into the functions used by Human Resource Managers in the effective management of their human resources in all organizational settings. The course will cover Human Resource Management as it relates to recruitment and placement, training and development, compensation, and employee relations.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	The main outcome of this course is to provide students with skills and knowledge in human resource management consistent with the current needs of organizations.	1,2
2	Students will acquire specific, in-depth skills necessary to assist organizations in the effective utilization of employee skills and talents.	3,4

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	3
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	HR Management—The People Factor in Business and Management	
2	2	Staffing and Training	
3	3	Compensation, Benefits and Performance Management Systems	
4	3	Compensation, Benefits and Performance Management Systems	
5	4	Human Resources Law and Affirmative Action and Equal Employment	
6	4	Human Resources Law and Affirmative Action and Equal Employment, Revision	

7			
8	5	Labor Management Relations and Collective Bargaining	Mid-term
9	6	Managing and Building Teams and Developing a Productive Workplace	
10	7	Managing Health, Safety and Workplace Stress	
11	7	Managing Health, Safety and Workplace Stress	
12	8	Building a Principled Workplace	
13	8	Ethics and Leadership	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Human Resource Management by Robert L. Mathis and John H. Jackson, SouthWestern Cengage Learning, Twelfth Edition, 2008

Supplementary Material (s): Armstrong, S. And Mitchell, B. (2008). The Essential HR Handbook: A Quick and Handy Resource for Any Manager or HR Professional.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	7	8	56
Project/Presentation/Report Writing	1	30	30
E-learning Activities	3	6	18
Research Report	3	15	45
Class discussion	5	3	15
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			247
Total Workload/30 (h)			8.2
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Human Computer Interaction
Course Unit Code	CIS 525
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Kaan Uyar
Name of Lecturer (s)	Assist.Prof.Dr. Kaan Uyar
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Object Oriented Language
Recommended Optional Programme Components	Basic background on programming

Objectives of the Course:

The human components functions. The Computer components functions. The Interaction between the human and computer components. Paradigms Interaction design basics, HCI in the software process , Design rules, Implementation supports, Evaluation techniques, Universal design (Optional), User support (Optional)

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Explain the human components functions regarding interaction with computer	1
2	Explain Computer components functions regarding interaction with human	1
3	Demonstrate Understanding of Interaction between the human and computer components.	2
4	Use Paradigms	2
5	Implement Interaction design basics	1
6	Use HCI in the software process	5
7	Apply Design rules	4, 5
8	Produce Implementation supports	3, 4

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	The human	
2	2	The computer	
3	3	The interaction	

4	5	Interaction design basics	
5	6	HCI in the software process	
6	7	Design rules	
7			Mid-term
8	8	Implementation support, Revision	
9	10	Universal design	
10	11	User support	
11	11	User support	
12	12	Cognitive models	
13	13	Socio-organizational	
14	14	Communication and Collaboratıon models, Revision	
15			Final
16			Final

Recommended Sources

Textbook: Dix, Alan; Finlay, Janet; Abowd, Gregory; and Beale, Russell, "Human-Computer Interaction", 3rd Edition, Prentice Hall, 2004.

Supplementary Material (s): Any other text book you find useful in the University Library, or you can get it from the internet and Lecture Notes.

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	20%	
Oral examination	10%	
Term Project & Presentation	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	2	6
Research Report	2	15	30
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			250
Total Workload/30 (h)			8.3
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Cloud Computing Systems
Course Unit Code	CIS 526
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Adil Amircanov
Name of Lecturer (s)	Prof.Dr. Adil Amircanov
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Object Oriented Language
Recommended Optional Programme Components	Basic background on programming

Objectives of the Course:

To provide students with the fundamentals and essentials of Cloud Computing. To provide students a sound foundation of the Cloud Computing so that they are able to start using and adopting Cloud Computing services and tools in their real life scenarios. To enable students exploring some important cloud computing driven commercial systems such as Google Apps, Microsoft Azure and Amazon Web Services and other businesses cloud applications.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the principles of Cloud Computing	1
2	Learn examples of commercially available of Cloud Computing services	1
3	Learn the advantages and disadvantages of Cloud Computing	1
4	Learn when to use Cloud Computing	1
5	Learn how to transfer data to and from the Cloud	1,5

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to the course: defining the Cloud Computing, the roots of Cloud Computing.	
2	1	Introduction to the course: defining the Cloud Computing, the roots of Cloud Computing.	

3	3	Cloud Computing Deployment models, Cloud service models (IaaS, PaaS, SaaS).	
4	3	Cloud Computing Deployment models, Cloud service models (IaaS, PaaS, SaaS).	
5	4	Characteristics of Cloud Computing/ advantages and disadvantages of adopting Cloud Computing. Cloud Computing Architecture layers, Cloud Computing methodologies.	
6	4	Characteristics of Cloud Computing/ advantages and disadvantages of adopting Cloud Computing. Cloud Computing Architecture layers, Revision Cloud Computing methodologies.	
7			Mid-term
8	6	Security in Cloud Computing. Cloud-based service selection, SMI (business key attributes)	
9	6	Security in Cloud Computing. Cloud-based service selection, SMI (business key attributes)	
10	7	Cloud Economics (1): Resource Provisioning in Cloud Computing and cost optimization.	
11	7	Cloud Economics (2): Multitenancy in Cloud Computing, Monitoring in Cloud Computing.	
12	8	Examples of Cloud Computing applications: Google, Azure platform, Amazon Web Services. Other examples in the Internet such as	
13	8	Examples of Cloud Computing applications: Google, Azure platform, Amazon Web Services. Other examples in the Internet such as Force.com, Sound Cloud, Hyper Office, MyMusicCloud.	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Wang, L., Ranjan, R., Chen, J., & Benatallah, B. (2011). Cloud Computing: Methodology, Systems, and Applications, CRC Press, Boca Raton, FL, USA, ISBN: 9781439856413, October 2011.
Supplementary Material (s):
Buyya, R., Broberg J., & Goscinski, A. (2011). Cloud Computing: Principles and Paradigms, John Wiley & Sons Inc., ISBN: 978-0-470-88799-8, 2011.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	3	15	45
Class discussion	5	3	15
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3

Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			248
Total Workload/30 (h)			8.2
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Data Mining and Online Communications
Course Unit Code	CIS 527
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Kaan Uyar
Name of Lecturer (s)	Assist.Prof.Dr. Kaan Uyar
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Communication technologies
Recommended Optional Programme Components	Basic background on communication technologies

Objectives of the Course:
- To introduce students to basic applications, concepts, and techniques of data mining.
- To develop skills for using recent data mining software (eg. R) to solve practical problems in a variety of disciplines.
- To gain experience doing independent study and research.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the basic principles of data mining	1
2	Learn the basic principles of online communications	1
3	Learn how to solve problems in data mining	1
4	Learn how to program for data mining	1,5

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Overview of data mining process	
2	3	Data Mining Processes and Knowledge Discovery	
3	4	Database Support to Data Mining	
4	5	Data Mining Techniques and Functions	
5	6	Cluster Analysis	
6	7	Regression Algorithms in Data Mining, Revision	
7			Mid-term

8	8	Neural Networks in Data Mining	
9	10	Decision Tree Algorithms	
10	11	Data Mining for Customer Relationship Management Fraud detection, and	
11	12	Data Mining in Health Care, Medicine, and Science	
12	13	Link Analysis in Text Mining, Web Mining Taxonomy, Mining the Web	
13	13	Link Analysis in Text Mining, Web Mining Taxonomy, Mining the Web	
14		Revision	
15			Final
16			Final

Recommended Sources
Textbook: Margaret Dunham (2003) Data Mining Introductory and Advanced Topics, ISBN: 0130888923, Prentice Hall.
Supplementary Material (s):
Jiawei Han and Micheline Kamber (2005) Data Mining Concepts and Techniques, Morgan Kaufmann, 2nd Ed.
Pang-Ning Tan, Michael Steinbach, and Vipin Kumar (2005) Introduction to Data Mining, Addison Wesley.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	2	20	40
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	5	15
Research Report	3	15	45
Class discussion	4	3	12
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			240
Total Workload/30 (h)			8.0
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Web Development
Course Unit Code	CIS 528
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Nadire Cavus
Name of Lecturer (s)	Assoc.Prof.Dr. NAdire Cavus
Name of Assistant (s)	Doğuş Sarıca
Mode of Delivery	Face to Face E-Learning Activities
Language of Instruction	English
Prerequisites and co-requisites	Object programming language
Recommended Optional Programme Components	Basic background on web knowledge

Objectives of the Course:

The objective of this course is to provide students with a sound basis in the development of Web Application that meet the recommendations of the WWW Consortium. The student will not only be able to provide optimum solutions to software problems using the PHP and MySQL technology but will also be equipped to apply this to other related technologies

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	The students will be aware of developing Web applications in accordance with the WWW Consortiums recommendations and	1,5
2	Students will, by the use of PHP with MySQL, have a broad understanding of what is involved in developing dynamic Web sites from both a business as well as a technical perspective.	2,3,4,5

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to the Web and some history	
2	1	Introduction to Web Development	
3	1	XHTML and CSS	
4	2	Introduction to PHP basics	
5	3	Working with data types and operators	
6	4	Functions and Control Structures	
7			Mid-term

8	5	Manipulating Strings, Revision	
9	8	Working with databases and MySQL	
10	9	Manipulating MySQL databases with PHP	
11	9	Manipulating MySQL databases with PHP	
12	10	Managing State Information, Revision	
13		Project Presentation	
14		Project Presentation	
15			Final
16			Final

Recommended Sources

Textbook: PHP Programming with MySQL, Don Gosselin, ISBN 0-619-21687-5, Publisher: Thomson Course Technology.

Supplementary Material (s): Web Database Applications with PHP & MySQL, Hugh E., Williams, David Lane, O'Reilly Media; 2nd edition (May 16, 2004).

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	20%	
Quiz (Written)	5%	
Final Exam (Written)	40%	
Term Project	30%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	2	6
Research Report	1	15	15
Class discussion	14	2	28
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8.1
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced System Analysis Methods
Course Unit Code	CIS 529
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Boran Şekeroğlu
Name of Lecturer (s)	Assist.Prof.Dr. Boran Şekeroğlu
Name of Assistant (s)	Ömer Gümüş
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Software Engineering
Recommended Optional Programme Components	Basic background Information Systems

Objectives of the Course:

System analysis is the process of turning a set of user requirements into a logical system specification. The aim of this course is to give students an introduction to the principles and practice of system analysis methods. The objectives of this course are: to provide an understanding of the role of system analysis methods within various system development life cycles; to develop an awareness of the different approaches that can be taken for system analysis; to understand the tasks of a system analyst and learn how to apply the current computer aided tools for system analysis.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Understand the basic requirements and use of various tools in systems analysis	1
2	Learn the various approaches to system analysis and compare them	1
3	Learn to us the appropriate tools and techniques to solve a given system analysis task	3
4	Learn to write appropriate documentation for system analysis	1

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to System Analysis and successful systems	
2	2	Traditional and current approaches to system analysis and design	
3	3	Introduction to computer aided tools in system analysis	
4	4	Communicating with people	
5	5	Building better systems – quality concepts	

6		Building better systems – quantity concepts	
7			Midterm
8	6	Project management in system analysis, planning, estimating, and control	
9	7	Object oriented methods in system analysis	
10	8	Modeling system behavior	
11	9	Information security in system analysis	
12	10	Human computer interaction and system interface	
13	11	Revision	
14		Project presentation	
15			Final
16			Final

Recommended Sources

Textbook: Modern System Analysis & Design. J.A. Hoffer, J.F. George, J.S. Valacich, ISBN 0-13-02363-7, Publisher: Prentice Hall, 2011

Supplementary Material (s): Systems Analysis and Design Methods Hardcover 7th –2005, Jeffrey Whitten , Lonnie Bentley, ISBN-13: 978-0073052335 ISBN-10: 0073052337.

Assessment

Attendance & Assignment	10%	
Midterm Exam (Written)	40%	
Oral examination	-	
Final Exam (Written)	50%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	3	2	6
Research Report	2	15	30
Class discussion	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			255
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Data Communication Systems
Course Unit Code	CIS 530
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Dr.Zafer Ataser
Name of Lecturer (s)	Dr.Zafer Ataser
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Communication Systems
Recommended Optional Programme Components	Basic background on Communication Systems

Objectives of the Course:

Interpretation of analog-signaling aspects of digital systems and data communications through experience in using contemporary test instruments to generate and display signals in relevant laboratory setups. USe of oscilloscopes, pulse and function generators, baseband spectrum analyzers, desktop computers, terminals, modems, PCs, and workstations in experiments on pulse transmission impairments, waveforms and their spectra, modem and terminal characteristics, and interfaces.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the principles of analog and digital data communications	1
2	Learn how to setup and use serial and parallel data communication	1,5
3	Learn how to use oscilloscopes, pulse and function generators, and spectrum analyzers	5
4	Learn how the Infrared, USB, WiFi and CAN bus data communication systems work	1,2
5	Learn how the ZigBee and LIN bus data communication systems work	1,2
	Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work	

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	4
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4
	CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)	

Course Contents

Week	Chapter		Exams
1	1	Data Communications, Data Networking, and the Internet	
2	2	Protocol Architecture, TCP/IP, and Internet-Based Applications	
3	3	Data Transmission	
4	4	Transmission Media	
5	5	Signal Encoding Techniques	

6	6	Digital Data Communication Techniques, Revision	
7			
8	7	Data Link Control Protocols	Mid-term
9	8	Multiplexing	
10	9	Spread Spectrum	
11	10	Circuit Switching and Packet Switching	
12	11	Asynchronous Transfer Mode	
13	12	Routing in Switched Networks	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: William, S.(2007). Data and Computer Communication. Pearson; 9th Edition.
Supplementary Material (s): Forouzan, (2007). Data Communications and Networking, McGrawHill, 4th Edition

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	5	10	50
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	3	15	45
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			249
Total Workload/30 (h)			8.3
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	IT Communication Technologies
Course Unit Code	CIS 531
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Dr. Zafer Ataser
Name of Lecturer (s)	Dr. Zafer Ataser
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Communication Technologies
Recommended Optional Programme Components	Basic background on Communication Technologies

Objectives of the Course:

The main objective of this course is to teach the important topic of IT Communication Technologies and how to use this technology in everyday data communication.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the principles of IT Communication	1
2	Learn the various methods of data communication	1,2
3	Learn how to configure a system for data communication	1
4	Problems in data communication and how to solve them	1

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	3
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction	
2	4	Digital Transmission	
3	5	Analog Transmission	
4	6	Bandwidth Utulization	
5	9	Introduction to Data Link Layer	
6	10	Error Detection and Correction	
7			Mid-term
8	11	Data link Layer	

9	12	Media Access Control	
10	13	Wired LANs	
11	14	Other Wired networks	
12	15	Wireless LANS	
13	18,19	Introduction to Network Layer and Protocols	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Data Communications and Networking, B.A. Forouzan, McGrawHill, 2012.
Supplementary Material (s): Data and Computer Communications, W. Stallings, Pearson, 2013

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	2	15	30
Project/Presentation/Report Writing	1	40	40
E-learning Activities	-	-	-
Research Report	5	15	75
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			246
Total Workload/30 (h)			8.2
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Internet Technologies
Course Unit Code	CIS 532
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	1
Laboratory (hour/week)	1
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assoc.Prof.Dr. Nadire Cavus
Name of Lecturer (s)	Assoc.Prof.Dr. Nadire Cavus
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face E-learning activities
Language of Instruction	English
Prerequisites and co-requisites	Adv. Web Development
Recommended Optional Programme Components	Basic background on web design

Objectives of the Course:
- Understand the major protocols for internetworking in today's Internet
- Understand client-server architecture
- Perform basic website design
- Perform basic client side programming
- Perform basic server side programming
- Gain the ability to learn new Internet technologies by himself

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the importance of the Internet	1
2	Learn the basic client-server structure	1
3	Learn how to design a web site	1,2,5
4	Learn how to program client-server in Internet based environment	2,5
5	Learn the problems associated with Internet based design and how to solve them	1
	Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work	

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	3
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	4
	CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)	

Course Contents

Week	Chapter		Exams
1	1	Introduction and Overview	
2	2	Internet Trends	
3	3	Internet Applications and Network Programming	
4	4	Traditional Internet Applications	

5	5	Overview of Data Communications	
6	6	Information Sources And Signals, Revision	
7			Mid-term
8	7	Transmission Media	
9	8	Reliability and Channel Coding	
10	9,10	Transmission Modes, Modulation and Modems	
11	-	Discussion (Cooperative learning, debate)	
12	11	Multiplexing and Demultiplexing (Channelization)	
13	12	Access and Interconnection Technologies	
14	13	Local Area Networks: Packets, Frames, and Topologies, Revision	
15			Final
16			Final

Recommended Sources

Textbook: Douglas, E. (2001). Comer Computer Networks and Internets with Internet Applications (Third Edition) Prentice Hall, ISBN: 0-13-091449-5.

Supplementary Material (s): New Perspectives on the Internet, Sixth Edition, Comprehensive by Gary Schneider and Jessica Evans, New Perspectives Series, Thomson Learning-Course Technology-International, Cambridge, Massachusetts, 2007. ISBN: 1-4188-6071-9

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	15	45
Project/Presentation/Report Writing	1	40	40
E-learning Activities	3	3	9
Research Report	3	15	45
Class discussion	5	3	15
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	25	25
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8.1
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Computer Graphics
Course Unit Code	CIS 533
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Ümit İlhan
Name of Lecturer (s)	Assist.Prof.Dr. Ümit İlhan
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Programming Language
Recommended Optional Programme Components	Basic background on programming

Objectives of the Course:

- This course is designed to provide a comprehensive introduction to computer graphics leading to the ability to understand contemporary terminology, progress, issues, and trends.
- A thorough introduction to computer graphics techniques, focusing on 3D modeling, image synthesis, and rendering. Topics cover: geometric transformations, geometric algorithms, software systems (OpenGL, shaders), 3D object models (surface, volume and implicit), visible surface algorithms, image synthesis, shading and mapping, ray tracing, radiosity, global illumination, sampling, Monte Carlo path tracing, photon mapping, and anti-aliasing.
- The interdisciplinary nature of computer graphics is emphasized in the wide variety of examples and applications.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Transformational geometry -- utilizing transforms to positioning and manipulate objects in 3-dimensional space. This includes the positioning of virtual cameras and light sources.	1
2	Rendering of complex models -- accurately drawing illustrations of complex objects with arbitrary camera and light sources.	1
3	Shading algorithms -- determining how a surface should be shaded to produce realistic illustrations.	2,5
4	Curves and surfaces -- methods for rendering and shading curved objects	2,5,3,4

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction	
2	2	Introduction to 2D Graphics Using WPF	
3	3	An Ancient Renderer Made Modern	
4	4	A 2D Graphics Test Bed	
5	5	An Introduction to Human Visual Perception	
6	6	Introduction to Fixed-Function 3D Graphics and Hierarchical Modeling, Revision	
7			Mid-term
8	7	Essential Mathematics and the Geometry of 2-Space and 3-Space,	
9	8	A Simple Way to Describe Shape in 2D and 3D	
10	9	Functions on Meshes	
11	10	Transformations in Two Dimensions	
12	11	Transformations in Three Dimensions	
13	12	A 2D and 3D Transformation Library for Graphics	
14	13	Camera Specifications and Transformations, Revision	
15			Final
16			Final

Recommended Sources

Textbook: Hughes, J.F., et al. (2014).Computer Graphics Principle and Practice. Third Edition SBN-13: 978-0321399526 ISBN-10: 0321399528

Supplementary Material (s):

Shirley, P. (2005). Fundamentals of Computer Graphics, 2e. AK Peters.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	15	45
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	3	15	45
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3

Total Workload	239
Total Workload/30 (h)	8.0
ECTS Credit of the Course	8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Software Testing
Course Unit Code	CIS 534
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Boran Şekeroğlu
Name of Lecturer (s)	Assist.Prof.Dr. Boran Şekeroğlu
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Programming
Recommended Optional Programme Components	Basic background on programming

Objectives of the Course:

This course is designed to enable a clear understanding and knowledge of the foundations, techniques, and tools in the area of software testing and its practice in the industry. The course will prepare students to be leaders in software testing. Whether you are a developer or a tester, you must test software. This course is a unique opportunity to learn strengths and weaknesses of a variety of software testing techniques. Applications of testing techniques in health care industry (e.g. pacemaker), nuclear industry (e.g. plant control), aerospace industry (e.g. Mars Polar Lander), security (e.g. smart card), automobile industry (e.g. automotive control systems), and others will be considered.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Test process and continuous quality improvement	1
2	Test generation from requirements	1
3	Modeling techniques: UML: FSM and State charts, Combinatorial design; and others	2
4	Test generation from models	3,4
5	Test adequacy assessment	1,5
	Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work	

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	4
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	4
7	To build field specific competencies.	4
	CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)	

Course Contents

Week	Chapter		Exams
1	1	Brief introduction to software systems and SDLC	
2	3	Testing Techniques	
3	4	Test Administration	
4	-	Discussion (Case-study, small group work)	

5	5	Create the Test Plan	
6	5	Create the Test Plan, Review	
7			Mid-term
8	7	Test Metrics – Guidelines and usage	
9	8	Test reporting	
10	8	Test tools used to Build Test Reports	
11	9	Managing change	
12	-	Discussion (Co-operative learning, debate)	
13	10	Automation Testing Basics	
14		Review	
15			Final
16			Final

Recommended Sources

Textbook: Software Testing, R. Patton, Sams Publication, 2005.

Supplementary Material (s): Lessons Learned in Software Testing, C. Kaner, John Wiley & Sons, 2002.

Assessment

Attendance& Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	2	15	30
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	4	15	60
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			239
Total Workload/30 (h)			8.0
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Games Programming
Course Unit Code	CIS 535
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Prof.Dr. Doğan Ibrahim
Name of Lecturer (s)	Prof.Dr. Doğan Ibrahim
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Programming
Recommended Optional Programme Components	Basic background on programming

Objectives of the Course:
- Discuss and define the terms and principles of game design and development.
- Select and evaluate programming and scripting languages to develop particular games.
- Define the structure and duties of the game development team.
- Practice animation production and creation tools.
- Apply the mathematics used in game design.
- Apply the physics needed to design computer games.
- Apply artificial intelligence to developing computer games.
- Explain the networking issues involved in games development.

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the principles of game development	1
2	Learn how to program for animation	1,4
3	Learn the mathematics and physics required for game programming	1
4	Learn the basic principles of artificial intelligence	1
5	Develop a simple game	5

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	5
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	4
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction	
2	2	Types, Variables, and Standard I/O: Lost Fortune	

3	3	Truth, Branching, and The Game Loop: Guess My Number - See more at:	
4	4	For Loops, Strings, and Arrays: Word Jumble	
5	5	The Standard Template Library: Hangman	
6	6	Functions: Mad-Lib, Revision	
7			
8	7	References: Tic-Tac-Toe	Mid-term
9	8	Pointers: Tic-Tac-Toe 2.0	
10	9	Classes: Critter Caretaker	
11	10	Advanced Classes and Dynamic Memory: Game Lobby	
12	11	Inheritance and Polymorphism: Blackjack	
13		Project Presentation	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: Beginning C++ Game Programming, 1st Edition Michael Dawson UCLA ISBN-10: 1592002056, ISBN-13: 9781592002054

Supplementary Material (s): Character Development in Blender 2.5, 1st Edition Jonathan Williamson ISBN-10: 1435456254, ISBN-13: 9781435456259

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	20	60
Project/Presentation/Report Writing	1	45	45
E-learning Activities	-	-	-
Research Report	2	15	30
Class discussion	7	3	21
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
			239
Total Workload/30 (h)			8.0
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Advanced Simulation Systems
Course Unit Code	CIS 536
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	Assist.Prof.Dr. Ümit İlhan
Name of Lecturer (s)	Assist.Prof.Dr. Ümit İlhan
Name of Assistant (s)	Eren Aspava
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	Programming
Recommended Optional Programme Components	Basic background on programming

Objectives of the Course:

In this course, modeling and simulation (M&S) methodologies considering both practical and theoretical aspects – Primarily in the context of defense industry and game programming will be studied in details. By taking the lecture, you will be supported with sufficient knowledge about – A wide range of M&S concepts that will lead you to develop your own M&S applications

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn why simulation is important	1
2	Learn the theoretical aspects of simulation	1
3	Learn how to write programs for simulation	1
4	Learn how to develop real time simulation systems	1,5
5	Learn the basic problems in developing simulation systems	1

Assessment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	3
2	To acquire information literacy in life-long learning.	3
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	5
6	To develop competencies related to specialized fields.	5
7	To build field specific competencies.	5

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction	
2	2	Definition of Simulation	
3	3	Modeling Concepts	
4	4	Modeling Structures	
5	5	Advantages and Disadvantages of Simulation	
6	6	Areas of Application	

				Mid-term
7				Mid-term
8	7	Steps in a Simulation Study, Revision		
9	8	Random Number and Random Variant Generation		
10	9	Input Data		
11	10	Verification and Validation		
12	11	Experimentation and Output Analysis		
13	12	Experimentation and Output Analysis		
14		Revision		
15				Final
16				Final

Recommended Sources

Textbook: Jerry Banks, "Handbook of Simulation: Principles, Methodology, Advances, Applications, and Practice", John Wiley & Sons, Inc., 1998.

George S. Fishman, "Discrete-Event Simulation: Modeling, Programming and Analysis", Springer-Verlag New York, Inc., 2001.

Supplementary Material (s): Andrew F. Seila, Vlatko Ceric, Pandu Tadikamalla, "Applied Simulation Modeling", Thomson Learning Inc., 2003.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	30%	
Term Project	25%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	3	15	45
Project/Presentation/Report Writing	1	40	40
E-learning Activities	3	2	6
Research Report	3	15	45
Class discussion	5	3	15
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	30	30
Final Examination	1	3	3
Total Workload			244
Total Workload/30 (h)			8
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	E-commerce
Course Unit Code	CIS 541
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	
Name of Lecturer (s)	
Name of Assistant (s)	
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	
Recommended Optional Programme Components	

Objectives of the Course:

- Understand the benefits of e-commerce
- Understand the consumer oriented e-commerce applications
- Understand the various technologies of e-commerce
- Understand the e-commerce life cycle
- Understand the e-commerce models
- Understand the e-advertising and marketing
- Learn the various tools used in e-commerce development

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn the e-commerce models	1,2
2	Learn the e-advertising and marketing	1
3	Learn electronic payment systems	1
4	Learn e-security in e-commerce systems	1,2

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5. Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	3
4	To build higher order thinking skills.	4
5	To acquire technical competencies.	3
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	2

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to digital business and e-commerce	
2	2	Digital business strategy	
3	3	Managing digital business infrastructure	
4	4	E-environment	
5	6	Supply chain management	

6	7	E-procurement/ Revision	
7			Mid-term
8	8	Digital marketing	
9	9	Customer relationship management	
10	10	Change management in e-commerce	
11	10	Change management in e-commerce	
12	11	E-commerce modeling, analysis and design	
13	12	E-commerce management issues	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: D. Chaffey, Digital Business and E-Commerce Management, Pearson (2014)

Supplementary Material (s): K. Laudon and C. Travelr, E-Commerce 2015, Pearson (2015)

Assessment

Attendance & Assignment	10%	
Midterm Exam (Written)	20%	
Oral Examination	10%	
Final Exam (Written)	60%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	4	15	60
Project/Presentation/Report Writing	-	-	-
E-learning Activities	3	3	9
Research Report	5	15	75
Class discussion	5	3	15
Preparation for Midterm	1	15	15
Midterm Examination	1	3	3
Preparation for Final	1	20	20
Final Examination	1	3	3
Total Workload			242
Total Workload/30 (h)			8.1
ECTS Credit of the Course			8

NEU, Department of Computer Information Systems

Course Unit Title	Strategic Management
Course Unit Code	CIS 540
Type of Course Unit	Technical Elective
Level of Course Unit	Master
National Credits	3
Number of ECTS Credits Allocated	8 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	2
Laboratory (hour/week)	2
Year of Study	1st
Semester when the course unit is delivered	1st or 2nd
Course Coordinator	
Name of Lecturer (s)	
Name of Assistant (s)	
Mode of Delivery	Face to Face
Language of Instruction	English
Prerequisites and co-requisites	
Recommended Optional Programme Components	

Objectives of the Course:

- Understand the importance of strategic management
- Clearly understand the business environment
- Understand how to plan an organisation
- Understand how and what the managers have to do in a business
- Understand the various strategic management tools
- Understand how to develop decision making skills
-

Learning Outcomes

	When this course has been completed the student should be able to	Assessment.
1	Learn what strategic management is	1,2
2	Learn the importance of strategic management in business	1,2
3	Learn how do run and manage a business	1
4	Learn how to use the strategic management tools effectively	1,4

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4.Presentation, 5. Lab. Work

Course's Contribution to Program

		CL
1	To be able to do as teamwork.	5
2	To acquire information literacy in life-long learning.	4
3	To develop fundamental skills.	5
4	To build higher order thinking skills.	5
5	To acquire technical competencies.	2
6	To develop competencies related to specialized fields.	3
7	To build field specific competencies.	3

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week	Chapter		Exams
1	1	Introduction to strategic management	
2	1	Strategic management concepts	
3	2	Tools of strategy analysis	
4	5	Anslysing resources and capabilities	
5	6	Analysing organisation structure and management systems	
6	6	Management systems for coordination and control, Revision	

7	7		
8	7	Analysis of competitive advantage	Mid-term
9	8	Cost advantage and managing cost	
10	10	İndustry life cycle and competition	
11	11	Technology based industries	
12	11	Technology strategies and innovation	
13	14	Global strategies and multinational companies	
14		Revision	
15			Final
16			Final

Recommended Sources

Textbook: R.M. Grant, Contemporary StrategyAnalysis, Blackwell Publishing

Supplementary Material (s): M.Hitt, D. Ireland, R.Hoskisson, Competitive Strategy:Competitiveness and Globalisation, Cengage Learnng.

Assessment

Attendance & Assignment	5%	
Midterm Exam (Written)	40%	
Final Exam (Written)	55%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class	14	3	42
Assignments	5	8	40
Project/Presentation/Report Writing	-	-	0
E-learning Activities	1	20	20
Research Report	5	12	60
Class discussion	7	3	21
Preparation for Midterm	1	20	20
Midterm Examination	1	3	3
Preparation for Final	1	31	31
Final Examination	1	3	3
Total Workload			240
Total Workload/30 (h)			8
ECTS Credit of the Course			8