Administration

Chair:
Prof. Dr. H. IŞIK AYBAY

Vice Chair:
Assoc. Prof. Dr. YILTAN BİTİRİM

Department's Mission

The Department of Computer Engineering of Eastern Mediterranean University was established in 1993 and first group of students graduated in 1997. The mission of the department is to train its students to be multilingual, have good communication skills, ready for teamwork, and qualified to undertake roles in future projects designed for the benefit of the society.

Departmental Facilities

EMU Computer Engineering Department Faculty is composed of 10 professors, 6 associate professors, 2 assistant professors and 16 research assistants. The department believes that in computer engineering education, theoretical and practical parts must be balanced. With this aim in mind, the department has 2 general-use computer laboratories, 3 multimedia laboratories, 2 logic design laboratories, 1 iMac laboratory, 1 circuit and electronics laboratory, and 1 graduate level research and development laboratory.

Programs

The department currently has three bachelors (BS) level programs: computer engineering (in English), software engineering (in English) and computer engineering (in Turkish). The BS students take basic mathematics and physics courses, English courses and introductory computer science and programming courses in their freshman year. In their sophomore and junior years, they take fundamental programming, computer hardware and computer networks courses. In their senior year, BS students take 3 technical elective courses and prepare a graduation project which helps them improve their individual research, written and oral communication skills.

The aim of the MS level Computer Engineering graduate program (established in 1997) is to improve synthesis and design abilities of students, improve their research competence, and enrich their independent study skills. The program has thesis and non-thesis options. Starting from Spring 2022, graduate students will also be admitted to the new MS in Software Engineering program. The Doctoral (PhD) program (established in 1999) aims to produce academicians who can conduct an original research study in the computer engineering field, qualified to become faculty members in universities or research institutes.

Distinguishing Attributes

The department has proven its competence in computer engineering education with the ABET (Accreditation Board for Engineering and Technology) accreditation it received in 2009. This accreditation is renewed in 2017 to 2023. The software engineering program is also accredited in 2017 by ABET to 2023. Currently it is the only accredited Software Engineering program in Turkey and TRNC.

The Eastern Mediterranean University is ranked within the 501-600 band in Times Higher Education list of best universities in the world. It shares the second ranking with Turkish universities in mainland Turkey and the highest ranking in North Cyprus. Also in engineering discipline, EMU is ranked within the 301-400 band.

In many courses, much of the weight is given to term projects, assignments and practical application of knowledge and skills, which helps the students improve their written and oral communication and individual research skills. We believe, this approach creates an advantage for our graduates in finding better jobs after graduation.

Major Accomplishments

The Computer Engineering Department, along with its educational responsibilities, is contributing to the economic development of the TRNC with different research projects. Faculty members took part in a number of European Union projects. The Computer Engineering Department was also involved in the initiation and development of online distance education projects of EMU.

Our students have gained successful results in many project and programming competitions. One significant example to this is the third place obtained by our programming team among Turkish universities' teams in the 2013 IEEE Extreme programming contest.

The department has graduated more than 3000 BS and more than 230 MS students. Some of these graduates are working in international companies in various countries. Most of our 51 PhD graduates are currently academic staff members at universities in various countries.

Quality of Graduates

Our department aims at an education conforming to global standards and is interested in the career conditions of our graduates. In this regard, it continually upgrades the senior year technical electives and improves its programs to meet the current needs of the computer industry. In our English program, more than half of the freshman are foreign students. Some of our graduates are currently enrolled in graduate programs in USA and Europe.

Career Opportunities

Students successfully completing the graduation requirements are granted the BS degree in "Computer Engineering" or "Software Engineering". Graduates can find jobs as system administrators, application developers, software engineers, database administrators, software designers and can take part in computer aided industrial applications, or as engineers in research and development projects. Also, a significant number of our graduates are pursuing graduate level degrees and are becoming academic staff members in different universities.

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2021 – 2022 ACADEMIC CALENDAR

FALL SEMESTER			
September	3	2021	**2021 Summer School Last Day Of Classes**
September	6 - 8	2021	2021 Summer School Final Exams
September	13	2021	**Last Day For The Submission of 2021 Summer School Grades To The Registrar**
September	20 - 30	2021	Orientation Days For New Students
September	21	2021	**Last Day For; Changing 2021 Summer Term 'Incomplete' Grades - Submission Of Grade Changes and Submission Of Graduation Make-Up Grades To The Registrar**
September	22	2021	Last Day For Submission of 2021 Summer School Graduation Decisions To The Registrar
September	24	2021	**Diploma Awarding To 2021 Summer School Graduates**
September	27	2021	English Proficiency Test 1st Stage *
September	28	2021	**Last Day For Online Course Registration**
Sept./Oct.	29 - 1	2021	Course Registration Period (With Advisor) and Course Confirmation Days
September	29	2021	**English Proficiency Test 2nd Stage**
September	30	2021	Announcement of English Proficiency Test 2nd Stage Results
October	4	2021	**Classes Commence First Day Of Late Registration**
October	11	2021	Last Day For Late Registration
October	12	2021	**Academic Year Opening Ceremony**
October	18	2021	Religious Day (Mawlid Oct.17 night)
October	19	2021	**Last Day For Add/Drop**
October	29	2021	TR Republic Day (National Holiday)
November	10	2021	**Commemoration of Atatürk**
November	15	2021	TRNC Republic Day (National Holiday)
Nov./Dec.	22 - 4	2021	**Mid-Term Exams Period**
December	6	2021	System Will Be Accessible For Entering Courses To Be Offered In Spring Term 2021-2022
December	20	2021	**Last Day for submission of University Elective Courses to be Offered in the Spring Term of 2021 - 2022 by the Elective Courses Commission to the Rectorate**
December	25	2021	Noel**
December	30	2021	**Last Day For Entering Courses To Be Offered In Spring Term 2021 - 2022 to the system**
December	30	2021	Last Day For Course Withdrawal Last Day For Applying To Get Leave Of Absence
January	1	2022	**New Year's Day**
January	13	2022	Last Day of Classes
January	13	2022	**Online Course Registration For Spring Term 2021 - 2022 Commences**
January	17 - 29	2022	Final Exams
February	3	2022	**Last Day For The Submission Of Grades To The Registrar**

February	4 - 7	2022	Online Application Period For Resit Examinations
February	**4**	**2022**	**Last Day For Submission Of The Graduation Decisions To The Registrar**
February	8	2022	Fall Term Graduate Graduation Ceremony
February	**9**	**2022**	**Fall Term Associate / Undergraduate Graduation Ceremony**
September	3	2021	2021 Summer School Last Day Of Classes
February	**4 - 7**	**2022**	**Online Application Period For Resit Examinations**
February	4	2022	Last Day For Submission Of The Graduation Decisions To The Registrar
February	**8**	**2022**	**Fall Term Graduate Graduation Ceremony**
February	9	2022	Fall Term Associate / Undergraduate Graduation Ceremony
SPRING SEMESTER			
February	**4 - 7**	**2022**	**Online Application Period For Fall Term Resit Examinations**
February	10 - 16	2022	Fall Term Resit Examinations
February	**14 - 18**	**2022**	**Orientation Days For New Students**
February	18	2022	Last Day For The Submission of Fall Term Resit Examination Grades To The Registrar
February	**21**	**2022**	**English Proficiency Test 1st Stage ***
February	21	2022	Last Day For The Submission of 2021 - 2022 Fall Term 'Incomplete' Grade To The Registrar
February	**22**	**2022**	**Last Day For Online Course Registration**
February	23	2022	English Proficiency Test 2nd Stage
February	**23 - 25**	**2022**	**Course Registration Period (With Advisor) and Course Confirmation Days**
February	24	2022	Announcement of English Proficiency Test 2nd Stage Results
February	**28**	**2022**	**Classes Commence** **First Day Of Late Registration**
March	7	2022	Last Day For Late Registration
March	**7**	**2022**	**Last Day For The Submission of 2021 - 2022 Fall Term Letter Grade Changes and Submission of Graduation Make-Up Grades To The Registrar**
March	8	2022	Last Day For Submission Of 2021 - 2022 Fall Term Graduation Make-Up and Resit Exams Graduation Decisions To The Registrar
March	**11**	**2022**	**Graduation for 2021 - 2022 Fall Term Graduation Make-Up and Resit Exams Graduates**
March	14	2022	Last Day For Add/Drop
April	**16 - 30**	**2022**	**Mid-Term Exams Period**
April	23	2022	National Sovereignty & Children's Day
April	**28**	**2022**	**System Will Be Accessible For Entering Courses To Be Offered In Summer 2021 - 2022**
May	1	2022	Ramadan Bairam Eve
May	**1**	**2022**	**Workers' and Spring Day**

May	2-4	2022	Ramadan Bairam
May	**13**	**2022**	**Last Day for submission of University Elective Courses to be Offered in the Summer Term of 2021 - 2022 by the Elective Courses Commission to the Rectorate**
May	18 - 21	2022	Spring Festival
May	**19**	**2022**	**Atatürk Commemoration, Youth and Sports Day**
May	23	2022	Last Day For Entering Courses To Be Offered In Summer 2021 - 2022 to the system
May	**26**	**2022**	**Last Day For Course Withdrawal** **Last Day For Applying To Get Leave Of Absence**
June	9	2022	Last Day of Classes
June	**13 - 25**	**2022**	**Final Exams**
June	20	2022	Online Course Registration For Summer Term 2021 - 2022 Commences
June	**30**	**2022**	**Last Day For The Submission Of Grades To The Registrar**
July	1	2022	Last Day For Submission Of The Graduation Decisions To The Registrar
July	**1 - 4**	**2022**	**Online Application Period For Resit Examinations**
July	5	2022	Spring Term Graduate Graduation Ceremony
July	**6**	**2022**	**Spring Term Associate / Undergraduate Graduation Ceremony**
SUMMER SCHOOL			
July	**8**	**2022**	**Kurban Bairam Eve**
July	**9 - 12**	**2022**	Kurban Bairam
July	**13 - 19**	**2022**	**Spring Term Resit Examinations**
July	4	2022	System Will Be Accessible For Entering Courses To Be Offered In Fall Term 2022 - 2023
July	19	2022	**Last Day for submission of University Elective Courses to be Offered in the Fall Term of 2022 - 2023 by the Elective Courses Commission to the Rectorate**
July	20	2022	Peace and Freedom Day
July	21	2022	**Last Day For The Submission of Spring Term Resit Examination Grades To The Registrar**
July	25	2022	Last Day For The Submission of 2021 - 2022 Spring Term 'Incomplete' Grade To The Registrar
July	26	2022	**Last Day For Summer Term Online Course Registration**
July	27 - 29	2022	Summer Term Course Registration Period (With Advisor) and Course Confirmation Days
July	29	2022	**Last Day For Entering Courses To Be Offered In Fall Term 2022 - 2023 to the system**
August	1	2022	Natioanal Holiday
August	2	2022	**Classes Commence** **First Day Of Late Registration**
August	4	2022	Last Day For The Submission of Spring Term Graduation Make-Up Grades To The Registrar

August	**5**	**2022**	**Last Day For Submission Of Spring Term Graduation Make-Up and Resit Exams Graduation Decisions To The Registrar**
August	8	2022	Last Day For Late Registration
August	**10**	**2022**	**Graduation for Spring Term Graduation Make-Up and Resit Exams Graduates**
August	10	2022	Online Course Registration For Fall Term 2022 - 2023 Commences
August	**15**	**2022**	**Last Day For Add/Drop**
August	29	2022	Last Day For Course Withdrawal
August	**30**	**2022**	**Victory Day**
September	8	2022	Last Day of Classes
September	**10 - 14**	**2022**	**Summer Term Final Exams**
September	16	2022	Last Day For The Submission Of Summer Term Grades To The Registrar
September	**26**	**2022**	**Last Day For Submission of Summer Term 'Incomplete' Grades, Letter Grade Changes and Graduation Make-Up Grades To The Registrar**
September	27	2022	Last Day For Submission of The Summer Term Graduation Decisions To The Registrar
September	**30**	**2022**	**Diploma Awarding To Summer School Graduates**

FACULTY

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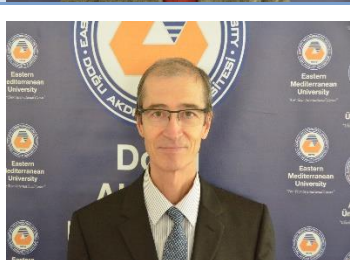*e-mail: zeki.bayram@emu.edu.tr*

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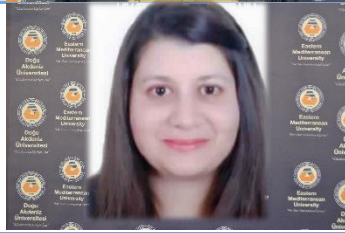|	
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UNDERGRADUATE PROGRAM AND FACILITIES

UNDERGRADUATE CURRICULUM FOR COMPUTER ENGINEERING

Computer Engineering Curriculum								
First Year: Fall Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	25711	CMPE 107	Foundations of Computer Engineering	-	4	1	4	10
2	25712	MATH 163	Discrete Mathematics	-	3	1	3	5
3	25713	ENGL 191	Communication in English I	-	3	1	3	4
4	25714	MATH 151	Calculus I	-	4	1	4	6
5	25715	PHYS 101	Physics I	-	4	1	4	6
S.Tot =5					Sem. Total		18	31
					Sub-Total		18	31
First Year: Spring Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
	25721	CMPE 100	Introduction to Computer Engineering	-	-	2	0	1
1	25722	CMPE 112	Programming Fundamentals	CMPE 107	4	1	4	10
2	25723	ENGL 192	Communication in English II	ENGL 191	3	1	3	4
3	25724	MATH 152	Calculus II	MATH 151	4	1	4	6
4	25725	PHYS 102	Physics II	-	4	1	4	6
5	25726	TUSL 181 / HIST 280	Turkish as a Second Language (other Students) / History of Turkish Reforms (TC/TRNC)	-	2	-	2	2
S.Tot =5					Sem. Total		17	29
					Sub-Total		35	60
Second Year: Fall Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	25731	CMPE 223	Digital Logic Design	MATH 163	4	1	4	7
2	25732	CMPE 231	Data Structures	CMPE 112	4	1	4	7
3	25733	CMPE 211	Object-Oriented Programming	CMPE 112	4	1	4	6
4	25734	ENGL 201	Communication Skills	ENGL 192	3	1	3	4
5	25735	MATH 241	Linear Algebra and Ordinary Diff. Equations	MATH 151	4	1	4	6
S.Tot =5					Sem. Total		19	30
					Sub-Total		54	90
Second Year: Spring Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	25741	CMPE 224	Digital Logic Systems	CMPE 223	4	1	4	7
2	25742	CMPE 226	Electronics for Computer Engineers	MATH 241	4	1	4	7
3	25743	CMPE 242	Operating Systems	CMPE 112	4	1	4	7
4	25744	MATH 373	Numerical Analysis for Engineers	MATH 241	3	1	3	5
5	25745	UE - 01	Basic Science (CHEM 101, BIOL 105, SCIE 130, etc.)	-	3|4	-	3|4	4
S.Tot =5					Sem. Total		18|19	30
					Sub-Total		72|73	120

Third Year: Fall Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	25751	CMPE 325	Computer Architecture and Organization	CMPE 224	4	1	4	7
2	25752	CMPE 353	Database Management Systems	CMPE 231	4	1	4	6
3	25753	CMPE 371	Analysis of Algorithms	CMPE 231	4	1	4	6
4	25754	CMPE 321	Signals and Systems for Computer Engineers	CMPE 226	4	1	4	6
5	25755	MATH 322	Probability and Statistical Methods	MATH 151	3	1	3	5
S.Tot =5					Sem. Total		19	30
					Sub-Total		91|92	150

Third Year: Spring Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	25761	CMPE 320	High End Embedded Systems	CMPE 224	4	1	4	6
2	25762	CMPE 344	Computer Networks	CMPE 242 + MATH 322	4	1	4	6
3	25763	CMPE 342	Client/Server Programming	CMPE 231	4	1	4	7
4	25764	CMPE 312	Software Engineering	CMPE 211	4	1	4	7
5	25765	UE- 02	Uni. Elective II- Arts & Humanities	-	3	-	3	4
S.Tot =5					Sem. Total		19	30
					Sub-Total		110|111	180

Fourth Year: Fall Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
-	25771	CMPE 400	Summer Practice	-	-	-	0	1
1	25772	CMPE 455	Security of Computer Systems & Networks	CMPE 344	4	1	4	6
2	25773	AE 01	Area Elective I	-	3|4	1	3|4	6
3	25774	AE 02	Area Elective II	-	3|4	1	3|4	6
4	25775	CMPE 471	Automata Theory	MATH 163	4	1	4	6
-	25776	CMPE 405	Graduation Project I	-	1	-	1	2
5	25777	IENG 355	Ethics in Engineering	-	3	-	3	4
S.Tot =5					Sem. Total		17|20	31
					Sub-Total		127|131	211

Fourth Year: Spring Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	25781	CMPE 410	Principles of Programming Languages	CMPE 211	4	1	4	7
2	25782	AE 03	Area Elective III	-	3|4	1	3|4	6
3	25783	UE-03	Uni. Elective III- Arts & Humanities	-	3	-	3	4
4	25784	UE-04	Uni. Elective IV (Restricted: ECON/MGMT/FIN/BANK/ACCT Fields)	-	3	-	3	4
5	25785	CMPE 406	Graduation Project II	CMPE 405	3	1	3	8
S.Tot =5					Sem. Total		16|17	29
C.tot=40					Sub-Total		143|148	240

UNDERGRADUATE CURRICULUM FOR SOFTWARE ENGINEERING

Software Engineering Curriculum

First Year: Fall Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	29711	CMSE 107	Foundations of Computer Engineering	-	4	1	4	10
2	29712	MATH 163	Discrete Mathematics	-	3	1	3	5
3	29713	ENGL 191	Communication in English I	-	3	1	3	4
4	29714	MATH 151	Calculus I	-	4	1	4	6
5	29715	PHYS 101	Physics I	-	4	1	4	6
S.Tot =5					Sem. Cr. Total :		18	31
					Cr. Sub-Total :		18	30

First Year: Spring Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
-	29721	CMSE 100	Introduction to Software Engineering	-	-	2	-	1
1	29722	CMSE 112	Programming Fundamentals	CMSE 107	4	1	4	10
2	29723	ENGL 192	Communication in English II	ENGL 191	3	1	3	4
3	29724	MATH 152	Calculus II	MATH 151	4	1	4	6
4	29725	PHYS 102	Physics II	-	4	1	4	6
5	29726	TUSL 181	Turkish as a second Language (other Students)	-	2	-	2	2
		HIST 280	History of Turkish Reforms (TC/TRNC)					
S.Tot =5					Sem. Cr. Total :		17	29
					Cr. Sub-Total :		35	60

Second Year: Fall Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	29731	CMSE 201	Fundamentals of Software Engineering	CMSE 107	4	1	4	8
2	29732	CMSE 211	Object-Oriented Programming	CMSE 112	4	1	4	7
3	29733	CMSE 231	Data Structures	CMSE 112	4	1	4	7
4	29734	MATH 241	Linear Algebra and Ordinary Diff. Equations	MATH 151	4	1	4	6
5	29735	UE-01	Basic Science (CHEM 101, BIOL 105, SCIE 130, etc.)	-	3|4	-	3|4	4
S.Tot =5					Sem. Cr. Total :		19|20	32
					Cr. Sub-Total :		54|55	92

Second Year: Spring Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	29741	CMSE 222	Introduction to Computer Organization	MATH 163	4	1	4	8
2	29742	CMPE 242	Operating Systems	CMSE 112	4	1	4	7
3	29743	MATH 373	Numerical Analysis for Engineers	MATH 241	3	1	3	5
4	29744	ENGL 201	Communication Skills	ENGL 192	3	1	3	4
5	29745	UE-02	Uni. Elective II- Arts &Humanities	-	3	-	3	4
S.Tot =5					Sem. Cr. Total :		17	28
					Cr. Sub-Total :		70|71	119

Third Year: Fall Semester

# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	29751	CMSE 321	Software Req. Analysis & Specification	CMSE 201	4	1	4	7
2	29752	CMSE 353	Security of Software Systems	CMSE 201	4	1	4	7
3	29753	CMSE 371	Analysis of Algorithm	CMSE 231	4	1	4	6
4	29754	UE- 03	Uni. Elective III- Arts &Humanities	-	3	-	3	4
5	29755	MATH 322	Probability and Statistical Methods	MATH 151	3	1	3	5
S.Tot =5					Sem. Cr. Total :		18	29
					Cr. Sub-Total :		88|89	148

Third Year: Spring Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	29761	CMSE 322	Software Design	CMSE 321	4	1	4	6
2	29762	CMSE 318	Principles of Programming Languages	CMSE 211	4	1	4	7
3	29763	CMSE 346	Computer Networks & Communication	CMPE 242 + MATH 322	4	1	4	6
4	29764	CMSE 354	Database Management Systems	CMSE 231	4	1	4	6
5	29765	CMSE 326	Software Quality Assurance & Testing	CMSE 201	4	1	4	6
S.Tot =5					Sem. Cr. Total :		20	31
					Cr. Sub-Total :		108|109	180
Fourth Year: Fall Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
-	29771	CMSE 400	Summer Practice	-	-	-	0	1
-	29772	CMSE 405	Graduation Project I	-	1	-	1	1
1	29773	CMSE 471	Automata Theory	MATH 163	4	1	4	6
2	29774	CMSE 473	Software Process & Management	CMSE 321 + MATH 322	4	1	4	6
3	29775	CMSE 423	Embedded System Design	CMSE 222	4	1	4	6
4	29776	AE 01	Area Elective I	-	3|4	-	3|4	6
5	29777	AE 02	Area Elective II	-	3|4	-	3|4	6
S.Tot =5					Sem. Cr. Total :		19|21	32
					Cr. Sub-Total :		127|130	212
Fourth Year: Spring Semester								
# of crs.	R.code	Crs.Code	Course Name	Prerequisite	Lect.	Lab/Tur	Cr.	ECTS
1	29781	AE 03	Area Elective III	-	3|4	-	3|4	6
2	29782	AE 04	Area Elective IV	-	3|4	-	3|4	6
3	29783	CMSE 406	Graduation Project II	CMSE 405	3	1	3	8
4	29784	UE- 04	Uni. Elective IV (Restricted: ECON/MGMT/FIN/BANK/ACCT Fields)	-	3	-	3	4
5	29785	IENG 355	Ethics in Engineering	-	3	-	3	4
S.Tot =5					Sem. Cr. Total :		15|17	28
C.Tot=40					Cr. Sub-Total :		142|147	240

ELECTIVES

A. Non-technical Electives

Non-technical electives approved by the department are announced at the beginning of each semester. Students can choose any of those courses announced as a non-technical elective.

B. Area Electives

Area elective courses offered by the Computer Engineering Department are announced by the Department at the beginning of each semester. A list of area elective courses is given below. The Department may add further courses to this list. In addition to these courses, at the beginning of each semester, the Department will list courses offered by other Engineering Faculty Departments that may be chosen as area electives. Registration to such courses will require Departmental consent.

Course Code	Course Name	Credit	Prerequisite
CMPE/CMSE 413	Compiler Construction	(4, 1) 4	MATH 163
CMPE/CMSE 414	Modern Programming Platforms	(4, 1) 4	CMPE 211
CMPE/CMSE 415	Visual Programming	(4, 1) 4	CMPE 231
CMPE/CMSE 416	Object-Oriented Programming and Graphical User Interfaces	(4, 1) 4	CMPE 211
CMPE/CMSE 417	Advanced Topics in C	(4, 1) 4	CMPE 211
CMPE/CMSE 418	Internet Programming	(4, 1) 4	CMPE 353
CMPE/CMSE 419	Mobile Application Development	(4, 1) 4	CMPE 211
CMPE/CMSE 421	Parallel Computer Architecture	(4, 1) 4	CMPE 325
CMPE/CMSE 422	Microprocessor Systems	(4, 1) 4	CMPE 224
CMPE/CMSE 423	Low End Embedded Systems	(4, 1) 4	CMPE 224
CMPE/CMSE 424	Introduction to Image Processing	(4, 1) 4	MATH 152
CMPE/CMSE 426	Digital Signal Processing	(4, 1) 4	CMPE 321
CMPE/CMSE 427	Hardware Realization of Algorithms	(4, 1) 4	CMPE 224
CMPE/CMSE 428	Data Science	(4, 1) 4	MATH 322
CMPE/CMSE 429	Deep Learning	(4, 1) 4	MATH 241
CMPE/CMSE 443	Real-time System Design	(4, 1) 4	CMPE 242
CMPE/CMSE 444	Data Communications	(4, 1) 4	CMPE 344
CMPE/CMSE 445	Internet Architecture and Protocols	(4, 1) 4	CMPE 344
CMPE/CMSE 446	Networked computing	(4, 1) 4	CMPE 344
CMPE/CMSE 447	Fiber Optic Computer Communication	(4, 1) 4	CMPE 321
CMPE/CMSE 448	Modern Networking Concepts	(4, 1) 4	CMPE 344
CMPE/CMSE 449	Distributed Systems	(4, 1) 4	CMPE 242
CMPE/CMSE 451	Information Security	(4, 1) 4	CMPE 353
CMPE/CMSE 461	Artificial Intelligence	(4, 1) 4	CMPE 211
CMPE/CMSE 462	Functional and Logic Programming	(4, 1) 4	CMPE 211
CMSE 439	Human/Computer Interaction	(4, 1) 4	-
CMSE 491	Selected Topics in Software Engineering	(4, 1) 4	-
CMSE 492	Selected Topics in Software Engineering	(4, 1) 4	-

For course descriptions, check the Computer Engineering Department's Web site.

LABORATORIES

General Computer Laboratory I

The first general laboratory is equipped with 50 Intel Core i7 16GB RAM computers. The laboratory may be used according to the requirements of students for their courses and projects.

General Computer Laboratory II

The second general laboratory is equipped with 25 computers. The laboratory may be used according to the student's requirements for their courses and projects the requirements of students for their courses and projects.

UNIX Laboratories:

In Unix Lab1, there are 25 computers that have Dual Core PC's, Windows 7 operating system and a direct connection to a Fedora server. In Unix Lab2, there are 25 computers that have Intel Core i7 16 GB RAM.

Computer Research Laboratory

This laboratory provides general-purpose research facilities under various software platforms for graduate students. This laboratory is used for project and research studies of 4th year students as well. There are 16 Dual Core PC's in this lab.

Electric and Electronics Laboratory

This laboratory provides facilities for performing experiments on electrical circuits and basic electronics. It includes voltmeters, amperemeters, signal generators, power supplies, oscilloscopes and relevant discrete components.

Logic Design Laboratory

Intended for teaching the fundamentals of combinatorial and sequential logic circuits. The equipment includes construction boards with power supplies, clock generators, LED displays, IC's and 40 Intel Core i3 computers.

Multimedia Laboratory

Intended for teaching the technical elective courses. There are 40 i5 16GB RAM computers in this lab.

Mac Laboratory

There are 25 iMac (OS X operating system) computers and 10 IPAD located in this lab.

REGISTRATION

The Academic Advisor

Each student is assigned an Academic Advisor who assists the student with matters related to course selection, registration, and scheduling. The advisor plays a key role in the student's progress through University studies, but it is ultimately the student's responsibility to meet all University requirements, and it is the responsibility of the Office of the Registrar to ascertain and certify that these requirements have been met.

Students must obtain their advisors' approval for registration, selection of core and elective courses, and for adding, dropping, or withdrawing courses.

Registration Procedure

A) Course Registration Procedure

Please, first get access for course registration with your 'ID card' and 'bank receipt' by visiting:
- Registrar's Office
- Accounting Office

Then go to your academic advisor at your department to complete your registration.

Important Notes:
- Course registration is complete when you see your advisor face-to-face and he/she confirms your registration on the computer.
- Students who do not take access cannot complete their registration.
- You can learn the tuition fee or any debts that needs to be settled from http://students.emu.edu.tr (https://stdportal.emu.edu.tr)
- Students have to register for courses in person. Please do not ask your friend(s) to do it for you. It will not be accepted.
- Students, who complete their registration after COURSE REGISTRATION period, should pay penalty per day even if they did pay their tuition fees earlier.
- In case of problems, please go directly to the Registrar's Office.

B) On-Line Course Registration Procedure

Access to online registration: (https://stdportal.emu.edu.tr)
First pay your tuition and fees, then log on to this web site and choose your courses online. Then, get confirmation from your advisor regarding your course selection.

Your course registration will be completed when your advisor confirms your courses. You will need to see your advisor face to face before the last date that will be announced to get the final approval for your course registration. (Students who will not take approval from their advisor until the specified date will have to pay late registration penalty starting from the very beginning of registration).

Important Notes:
- Students who do not get access cannot register online.
- Access is opened automatically in 24 - 48 hours following the payment to the bank.
- You can learn your tuition fee or any debts. That needs to be settled from http://students.emu.edu.tr (https://stdportal.emu.edu.tr)
- Freshman undergraduate students CANNOT register on-line. These students must first visit the registration/accounting offices and then meet the academic staff in the department who are responsible for registration of freshmen.
- Master/PhD students and first semester CANNOT register on-line. These students must fill-out the form in appendix A and then meet the academic staff in the department who are responsible for registration of Master/PhD students.

Late Registration

Students who have not completed formal registration processes during the scheduled period may be permitted to register late with a late registration penalty, if the delay has been involuntary.

Registration Changes

a) Adding Courses

With the approval of their Academic Advisor and the Chairman of the Department, students may request addition of courses to their schedule during the first two weeks of classes in a regular term. Such requests will be granted if:
1) The maximum allowable student course load is not exceeded;
2) Added courses can be scheduled properly.

b) Dropping Courses

With the approval of his/her Academic Advisor and the Chairman of the Department, a student may drop courses from his/her schedule during the first two weeks of classes in a regular term.

c) Withdrawing from a Course

Course withdrawal may take place no later than the deadline announced in the academic calendar, with the approval of the Academic Advisor and the Chairman of the Department. A student who withdraws from a course will receive a "W" grade on his/her transcript. Such courses must be registered again in the following semester.

NOTE: Depending on the different conditions, a course-group may be altered (schedule/instructor) or removed or added to the semester's program. The department tries to minimize these alterations. Please check your portal frequently in the first two weeks to be aware of those changes.

TRANSFERS

Transfer from another Academic Institution

A student, who has completed at least one academic semester of an equivalent program at another university, may apply for transfer to the Computer Engineering Department. Such an application will be considered provided the applicant:

a) has not been dismissed from that institution, either on academic or any other grounds,
b) has an adequate knowledge of English, and
c) the quota for transfer students has not been exceeded.

A transfer student may be exempted from certain courses. Decisions concerning exemption will be made by the Transfer Committee of the Department, only once, after the application of the student.

Transfer within the University

Transfer from another four-year degree program of EMU to Computer Engineering may be permitted, if the student has successfully completed at least one term of study in a department (English Preparatory School is not counted); and if the quota for transfer students has not been exceeded. Students who already made one internal transfer before or students who have an academic warning are not eligible for another transfer application.

A two-year diploma program student who graduates with a high cumulative grade-point average may apply for transfer to the first year of the Computer Engineering four-year degree program.

COURSE-LOAD AND ASSESSMENT

The Academic Year

Academic activities take place in an "Academic Year", from the end of September to the end of June, consisting of two periods of at least 16 weeks each, possibly followed by a "Summer Session". The two periods of study are referred to as the "Fall" and "Spring" semesters. There is a two to three weeks of break between the two semesters. Summer sessions are offered in July and August.

The Academic Term

The current academic term of a student is determined by the cumulative credited courses he/she registered to during his/her whole period of studies at EMU. The total course load is distributed over eight academic terms, and four academic years.

Courses

Courses consist of two to four hours of instruction and, where appropriate, tutorial and laboratory work, for each week of the Fall or Spring semester; or the equivalent total number of hours per week in a Summer session.

The Credit-Hour

Courses offered for academic credit are described in terms of a number that is proportional to the academic involvement they require from the student. This number is called the "Credit-Hour."

For each course, one credit hour is equivalent to one lecture hour per week. Any additional hour that may be required for preparation outside the class, or any additional hour required for laboratory or tutorial work is considered to be equivalent to one-half of a credit-hour.

A course consisting of both lecture and laboratory/tutorial sessions, meeting for 3 lecture hours and 2 laboratory/tutorial hours per week would be assigned 4 credit-hours. It would receive a credit rating of "(3,2) 4," where the first digit indicates the weekly lecture hours, the second digit the weekly laboratory/tutorial hours, and the last, the credit-hours associated with the course.

Prerequisite Courses

Prerequisite course requirements are given in parentheses in each course description, if applicable. They are also shown in the tabular undergraduate curriculum. When course A is a prerequisite to course B, a student cannot register to course B before passing from course A.

The Course Load

The semester course load is defined as the number of credit-courses for which a student is registered in a semester. The regular course load for Computer Engineering students is 5 credited courses. A student may increase it by at most one credited course, if he/she has a 3.00 GPA or CGPA, with the approval of his/her Academic Advisor and the Chairman of the Department. A student may reduce his/her load by at most two credited courses. However, these courses must be completed by the following semester, if offered. A student who is in his/her last academic term (graduation term) may be permitted to register for up to 7 courses, deemed appropriate by his/her Academic Advisor, and with the approval of the Chairman of the Department. During a Summer Session, students may carry loads from 1 to 2 credited courses.

Course Grades and Grade-Points

Thirteen categories of scholastic achievement, ranging from "superior" to "failure" (A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F, NG), are recognized as valid end-of-course grades or letter grades. These grades are indexed on a scale of "0 to 4", termed "Grade-Points". The symbol "NG" (Nil Grade) indicates poor attendance and/or a failure to complete assigned work (including exams).

The letter grades are indexed to Grade-Point equivalents as follows: A=4.0; A-=3.7; B+=3.3; B=3.0; B-=2.7; C+=2.3; C=2.0; C-=1.7; D+=1.3; D=1.0; D-=0.7; F=0.0; NG=0.0.

Four other symbols are also used in grading, for special circumstances. "W" (withdrawn), indicates withdrawal from a course before the end of a term. In case where a student has been authorized to delay completion of course work past the normal end-of-term, the "I" (incomplete) grade may be given until a formal grade is reported. Achievement in a non-credit-hour course is indicated by the symbol "S" (satisfactory) or "U" (unsatisfactory). In the case of repeated course work, the last grade earned is considered the official course grade. No grade-point equivalent is assigned for the notations I, W, S, and U.

Credits Earned

A student earns credits based on the level of his/her achievement in a course. The credits earned are the product obtained by multiplication of the "Credit-Hour" and the "Grade-Point" obtained. For example, if a student gets grade A- for a 4-credit course, then the credits earned for that course is 4*3.7=14.8.

The Grade-Point Average: GPA

A student's academic achievement for each semester is expressed numerically by a real number referred to as the "Grade Point Average" (GPA). The GPA is obtained by:

1. calculating credits earned for each course,
2. adding these earned credits for all courses in the semester to obtain the total credits, and
3. dividing the total credits by the total credit-hours registered in that semester.

The GPA can range from 0.00 to a maximum number of 4.00. A student's GPA is calculated and reported to two decimal places.

The Cumulative Grade Point Average: CGPA

A student's overall academic achievement is expressed by a real number called the "Cumulative Grade Point Average" (CGPA). The CGPA is obtained by:

1. adding the credits earned in each completed semester to find the total credits earned,
2. adding credit-hours registered in all completed semester to find the total credit-hours registered, and
3. dividing the total credits earned by the total credit-hours attempted.

When a course is repeated, the last credit earned is substituted in place of the previous value.

Example:

Assume that a student is registered the following courses and got the following grades.

Semester I:

Course	Grade	Credit
CMPE 101	B-	(3)
MATH 163	D-	(3)
ENGL 191	D	(3)
MATH 151	C	(4)
PHYS 101	F	(4)
		+ ___
		17

Credits earned = 3*2.7+3*0.7+3*1+4*2+4*0
            = 21.2

GPA = 21.2 / 17 = 1.25
CGPA = 21.2 / 17 = 1.25

Semester II:

Course	Grade	Credit	
MATH 163	B+	(3)	(repeat)
CMPE 102	B	(3)	
ENGL 192	D	(3)	
MATH 152	C+	(4)	
PHYS 101	D	(4)	(repeat)
		+ ___	
		17	

Total of new credits = 10

Credits earned = 3*3.3+3*3+3*1+4*2.3+4*1
            = 35.1

GPA = 35.1 / 17 = 2.06

Total credits registered = 17+10 = 27
(excluding repeated MATH163 and PHYS 101)
Total credits earned = 35.1 + 19.1 = 54.2
(excluding 2.1 in Semester I for the D- of MATH163)

CGPA = Total credits earned / total credits registered
     = 54.2 / 27 = 2.01

ACADEMIC EVALUATION

Evaluation of a Course

A course is said to have been successfully completed if a student, obtains a grade of A, A-, B+, B, B-, C+, C, C-, D+, D or S. A course in which a student receives a grade of D-, F, NG or U is not satisfactorily completed, and the student is required to repeat such a course in the next semester it is offered.

Satisfactory/Probation/Unsatisfactory Status

For a student registered in and after 2007-2008: her/his Satisfactory/On-Probation/Unsatisfactory Status is based on the following table:

Actual Academic Term	Satisfactory (S)	Satisfactory Progress (Y)	On Probation (P)	Unsatisfactory (U)	Compulsory Transfer/DISMISS (C)
2	4.00≥CGPA≥2.00	2.00>CGPA≥1.50	1.50>CGPA≥1.00	1.00>CGPA≥0.00	-----
3	4.00≥CGPA≥2.00	2.00>CGPA≥1.50	1.50>CGPA≥1.00	1.00>CGPA≥0.00	-----
4	4.00≥CGPA≥2.00	2.00>CGPA≥1.50	1.50>CGPA≥1.00	1.00>CGPA≥0.00	***1.00>CGPA≥0.00
5	4.00≥CGPA≥2.00	2.00>CGPA≥1.80	1.80>CGPA≥1.50	1.50>CGPA≥0.00	***1.00>CGPA≥0.00
6	4.00≥CGPA≥2.00	2.00>CGPA≥1.80	1.80>CGPA≥1.50	1.50>CGPA≥0.00	***1.00>CGPA≥0.00
7	4.00≥CGPA≥2.00	2.00>CGPA≥1.80	1.80>CGPA≥1.50	1.50>CGPA≥0.00	***1.00>CGPA≥0.00
≥8	4.00≥CGPA≥2.00	-----	2.00>CGPA≥1.80	1.80>CGPA≥0.00	***1.00>CGPA≥0.00

- **Actual Academic Term** refers to the number of semesters that a student has registered so far (English Preparatory School and summer semesters are not counted).
- **On Probation status**: Student can register to a maximum of two new courses.
- **Unsatisfactory status**: Student cannot register to any new course, must repeat previously taken courses.

- ***Compulsory Transfer/DISMISS**: Students who completed a minimum of 4 academic semesters (if the fourth semester is Spring Semester, then at the end of the Summer School) and who have a **CGPA below 1.00** are dismissed from the program. In case of Compulsory Transfer/DISMISS, the student may transfer to another faculty (with the same tuition fees) or may continue his education in the same program with new student registration fees.

For a student registered before 2007-2008: her/his Academic Warning(s) Status is based on the following table:

A student receives an Academic Warning if in a given semester, he/she obtains a CGPA lower than the required minimum semester CGPA limit.

Academic Term	CGPA
At the end of the **second** academic term	1.15
At the end of the **third** academic term	1.35
At the end of the **fourth** academic term	1.55
At the end of the **fifth** academic term	1.70
At the end of the **sixth** academic term	1.80
At the end of the **seventh** academic term	1.90

- **Academic Term**: The current academic term of a student is determined by the cumulative credited courses he/she registered to during his/her whole period of studies at EMU. The total course load is distributed over eight academic terms, and four academic years. In other words, the semester of a student is determined by the number of courses taken so far.
- **First Academic Warning** Student may register for a maximum of two new courses.
- The students with **Second, Third, ... Academic Warning** cannot register for any new course.
- The students with **Fourth Academic Warning** are dismissed from the program. In this case, the student may transfer to another faculty (with the same tuition fees) or may continue his education in the same program with new student registration fees.
- Students who originally registered before 2007-2008 should note that Academic Warning and dismiss rules are different for them.

Honor and High Honor Students

If the student has taken normal course load, if she/he obtains a GPA between 3.00 and 3.49, he/she is designated an "Honor Student". A student who obtains a GPA between 3.50 and 4.00 is designated a "High Honor Student".

Graduation

A student is entitled to graduate if he/she:

1. Satisfactorily completes all the required course work (40 courses with credits, and other compulsory courses),
2. Completes the 40-day summer training, and
3. Attains a CGPA of at least 2.00.

If at the time of his/her graduation a student has achieved a CGPA of 3.00 or higher, this will be indicated on his/her graduation Diploma/Certificate and official transcript as follows: students with a CGPA in the range 3.00-3.49 "Honors"; students with a CGPA in the range 3.50-4.00 "High Honors".

Graduation is conferred by the University Senate upon the request of Faculties and Schools. The Diplomas/Certificates are prepared by the Office of the Registrar, and describe the name of the program, the date of graduation, and the degree or title obtained.

Double-Major Programs Registration, Admission and Application

1. In order to be eligible to apply for the double-major program, students:

(a) should already be registered at least for a semester in one of the departments that forms the Double-major program and should renew his/her registration during the period of application to the double-major program.

(b) can apply for the double-major program earliest at the beginning of the third semester of the first major program.

(c) should obtain minimum grade of 'D' for all credit courses in the first major program up to the period of application.

(d) should hold a minimum CGPA of 3.00.

(e) **should be applied until the beginning of the 5th semester latest.**

2. A student can apply for more than one double-major program. However, students cannot register for more than one double-major program or a double-major and a double minor program at the same time.

3. Applications for double-major programs take place until the last day of the academic semester registration period following the announcement of the double-major programs.

Applications are processed by the Registrar's Office after the submission of an application form and a transcript.

4. Registrar's Office sends all applications to the department of the first major program on the first working day following the registration deadline.

5. The double-major program committee reviews applicants' documents and academic reference letters, if available, and determines whether the candidates will be admitted to double-major programs based on the set quota and whether applicants who have gained admission will be exempted from specific courses. The committee then submits the decision in writing to the department head of the first major program who will ask for relevant departments' and faculties' approval.

6. Students who have gained admission for the double-major program must register for the double-major program during the add-drop period of the relevant academic semester.

ADDITIONAL REGULATIONS

Attendance Requirements

The University believes that the benefits of academic studies come not only from independent study and the preparation of materials for formal grading, but also from participation in class and laboratory activities. Regular attendance of EMU students is therefore required in all courses.

When a student fails to show regular class attendance, an EMU faculty member may report an "NG" for the student. Such action may be taken when the number of unexcused absences exceeds 20% of the total class/laboratory hours scheduled for the course. Specific rules for NG grades are announced by instructors for each course at the beginning of each semester. Students should be aware that course grades can be adversely affected through absence, whether excused or unexcused.

Leave of Absence

A student, who has an important excuse for having a break from University studies for a period of time, may apply for leave of absence. The total duration of leaves of absence for a student cannot exceed a total of four semesters during his/her studies.

Written appeals are made to the Chairman of the Department at the beginning of each semester, within five weeks of the commencement of classes. Medical cases are dealt with separately. Permission for leave of absence must be approved by the Office of the Rector upon request by the Dean/Director of the program concerned.

Withdrawal from the University

A student who wishes to withdraw from the University must initiate withdrawal procedures with the Office of the Registrar. The official withdrawal procedure requires that the student obtain clearances from the Registrar, the Library, the Bookstore, Student Housing, and the Accounting Department.

Student Transcript of Academic Record

At the end of each semester, students are provided with a copy of his/her academic records. Errors or suspected errors should be brought to the immediate attention of the Registrar. An official transcript of a student's entire academic record will be provided upon submission of a written request from the student to the Registrar. The official transcript will be mailed by the Registrar to the intended recipient and cannot be handed directly to the student. Student copies of transcripts may also be issued upon request, which can be handed to the student.

Summer Session

Summer session is organized primarily to help students with lower scholastic achievement in some courses. Students may register to Summer session courses with the approval of the Department. Summer session is an intensive study which lasts for eight weeks. The number of courses offered is based on student demand and faculty availability. The grading policy is the same as the regular terms.

Summer Training

The Computer Engineering students are asked to take part in industrial work/organizations relating to their fields of study. This is required as part of the fulfillment of the degree program. Students are required to complete a total 40 working days of Summer Training session after finishing their second or preferably, third year of studies.

Starting from 2010-2011 academic year, students who have completed the curriculum apart from the summer training must pay 1/20 of the semester fees to register for only summer training.

Disciplinary Matters

The principles of truth and honesty are recognized as fundamental to an academic community. It is expected that both teachers and students will honor these principles. In the event of academic dishonesty or behavior that may damage University functions, disciplinary actions as described in the "Disciplinary Regulations" may be enforced by the Disciplinary Committee of the University.

NOTES