INFORMATION ON COMPUTER ENGINEERING MASTE	R DEGREE PROGRAM
	TOBB ETÜ M. S. program in Computer Engineering Program, founded in 2004 gave its first graduates in 2008. There are currently 13 faculties in the department. The faculty does research mostly in the areas of computer architecture, cryptography, computer security, human computer interaction, computer vision, image processing, data mining, bioinformatics, computational geometry, algorithmic game theory, theoratical computer science, robotic, and software engineering.
General Information	There are two programs, namely, Thesis and non-Thesis. Thesis and non-Thesis programs require taking 7 and 10 courses (9 ECTS each), respectively. Students can take some courses from outside of the department and can also take a limited number of 4xx level courses. Thesis students are also required to the BIL 597 Graduate Seminar (8 ECTS) and BIL 599 Master of Science Thesis course (60 ECTS). Finally all thesis and non-thesis students are required to take the FBE 600 Scientific Research Techniques and Publication Ethics course. More information can be obtained from the Graduate School web site (link: https://www.etu.edu.tr/tr/enstitu/fen-bilimleri-enstitusu)
Program Purpose	The purpose of the M.S. Program in Computer Engineering is to educate successful engineers that are capable of leadership in serving the science and humanity and are strong in adapting to the ever- changing world.
Degree Earned	Master of Science in Computer Engineering
Level of Degree Earned	Computer Engineering is a First-Cycle (Bachelors Degree – EQF 7) program.
Requirements and Rules of the Degree Earned	Graduation requirements are defined according to Article 45 of the Undergraduate Education and Examination Regulation (link: http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=8.5.15287&MevzuatIliski=0&sourceX mlSearch=). For graduation the thesis student should a) successfully complete at least 90 credits of courses, BIL 597 Graduate seminar, FBE 600 Scientific Research Methods and Publication Ethics within the maximum allowable time period b) obtain a GPA of 3.00/4.00.
Registration Admission Requirements	Student quota of our undergrad programs are determined by the board of regents after a suggestion by the Senate and subject to the approval of the Higher Education Council (YÖK). Acceptance of candidate students is according to the ÖSYM exam scores. Acceptance of foreign students are carried out according to the rules determined by the Senate. Acceptance of horizontal and vertical transfer students and special/guest/exchange students are regulated by the departmental and faculty administrative boards according to Undergraduate Education and Examination Regulation (link: http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=8.5.15287&MevzuatIliski=0&sourceX mlSearch=)
Recognition of Prior Learning	courses taken in a quitted previous higher education program. The substitution of the courses taken in a previous program, its equivalency and suitability with the courses in the program are evaluated at the Departmental and Engineering Faculty Boards. In case of approval of subtitution, the course is substituted with its letter grade. In case of vertical
Examinations, Assessment and Grading	Evaluation and assessment methods used for each course are defined according to Article 22 of the Undergraduate Education and Examination Regulation (link: http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=8.5.15287&MevzuatIliski=0&sourceX mlSearch=). Except the project and laboratory courses, which do not necessarily require an examination, all courses require at least a midterm and a final exam. Final exams are applied in a specific period of time indicated in the Academic Calendar. Final exam period and classrooms are determined by the Rectorate.
Teaching Style	The style of education is Full-Time and Day-Time. Most of the courses are given in classrooms.
Graduation Requirements	Graduation requirements are defined according to Article 45 of the Undergraduate Education and Examination Regulation (link: http://mevzuat.basbakanlik.gov.tr/Metin.Aspx?MevzuatKod=8.5.15287&MevzuatIliski=0&sourceX mISearch=). For graduation the thesis student should a) successfully complete at least 90 credits of courses, BIL 597 Graduate seminar, BIL 599 Master's Thesis and FBE 600 Scientific Research Methods and Publication Ethics within the maximum allowable time period b) obtain a GPA of 3.00/4.00. For graduation the student has to publish a conference paper.

Occupational Profiles of Graduated-Employment Opportunities	Our MS program has around 150 graduates so far. Most of our graduates either continue their academic careers or work in industry as R&D, software, or test engineers. Our graduates mostly work in software, information, defense, space/aviation, telecommunications industries or in public sectors. Companies like ASELSAN, ROKETSAN, TÜBİTAK, TAİ, ARÇELİK, TÜRK TELEKOM, SDT, HAVELSAN, technopark or universities are the ones that employ most of our graduates.
Transition to a Upper Degree	Candidates that successfully finished their Bachelor's program are required to obtain a minimum 55/100 ALES score and a minimum 50/100 English score in order to be accepted to graduate programs. The graduate school also provides tuition remission and stipend to a limited number of candidates with higher scores. International candidates can also apply with a GRE score instead of ALES. Application requirements for graduate programs are listed in detail in the Graduate School web page.(link:https://www.etu.edu.tr/tr/enstitu/fen-bilimleri-enstitusu/basvuru-bilgileri)

-	am : Computer Engi	JALIFICATION MATRIX		PR	OGR	AM (QUA	LIFIC	CATIC	ONS							
		ield: Engineering (Acader	nic) - Master Degree	1	2	3	4	5	6	6 7 8 9 1							
	INFORMATION	Theoretical - Factual	x	x		x	x				x						
			Completes and applies the theoretical and practical knowledge on math, algorihms, software design and development together with engineering solutions								x						
			Builds computer engineering problems, develops methods to solve them, and applies innovative methods in solutions.	х	х			х				х					
	SKILLS	Cognitive - Applied	Develops new and / or unique ideas and methods; develops innovative solutions in system, component or process design.	х	х	х	х					х					
			Designs and implements analytical, modeling and experimental based research; analyzes and interprets complex situations encountered in this process.		x		x		x			x					
			Collects data, designs suitable test cases, performs debugging, analyses and interprets resuls		x	x		x									
		Ability to work independently and to take responsibility	Works effectively as an individual or as a part of interdisciplinary team						x								
Progra			Accesses knowledge and performs literature search		х		х	Х			х		Х				
			Accesses knowledge and performs literature search using databases and other information sources		х		х	х			х		х				
			Aware of life-time learning, closely follows the developments in science and technology										х				
٨S			Adapt himself to the developments in algorithms,	х	х	х	х	х				х					
10I			software design and development	^	^	^	^	^				^					
ALIFICA		Learning Competence	Identifies/formalizes/solves computer engineering problems, selects and applies appropriate analytical and modelling techniques	х	х		х	х				х					
rea QU			Desins a system under realistic constrains and uses modern design techniques for this purpose	х	х	х	х	х				х					
ORE AF			Selects and uses modern techniques and tools for engineering applications	х	х	х	х	х				х					
0			Works effectively as an individual or as a part of interdisciplinary team	х					x								
			Uses information and communication technologies effectively Communicates verbally and in writing using a						х								
	COMPETENCIES		foreign language at least at the European Language Portfolio B1 General Level.							х		х					
		Communication and	Communicates using modelling languages							Х	Х						
		Social Competence	Accesses knowledge and performs literature search		х		х	х			х						
			using databases and other information sources Aware of environmental and social impacts of														
			engineering solutions and applications; aware of entreprenership, innovation and problems of the	х	х	х	х					х					
			age Cbserves social, scientific and ethical values in the							-		-					
			process of collecting, interpreting and announcing data and in all professional activities.							х							
			Awareness on project management, workplace														
			practices, employee health, environmental and														
			occupational safety; have an understanding of the legal consequences of their engineering			х				Х							
		Field Specific	applications.														
		Competence	Leads in multidisciplinary teams, develops solution approaches in complex situations and take	х		x							х				
			responsibility. Demonstrates the awareness of the universal and			\vdash	\vdash	-	-				-				
			social implications of engineering solutions and														
			practices; awareness of the issues of entrepreneurship and innovation and has														
			knowledge of the problems of the times.	1	1			1			1		1				

-									
Pro	ogram Yeterlilikleri								
1	Analytical thinking skills								
2	Ability to find algorithmic and effective solutions to real life problems								
3	Ability to adapt to new technologies								
4	Software or process design skills to meet the requirements								
5	Ability to apply math, science and engineering knowledge								
6	Interdisciplinary ability to work								
7	Observing social, scientific and ethical values in all professional and								
_	scientific activities								
8	The necessity of life-long learning is knowing and practicing ability								
9	Ability to develop and use the techniques, abilities and modern tools								
9	necessary for engineering applications								
10	To develop new and original ideas and methods; develop innovative								
10	solutions in system and software design								

	Program	Yete	rlilikle	eri							
BİL 501	Distributed Data Processing and Analysis	3	5	5	4	4	3	3	4	3	4
BİL 504	Algorithmic Game Theory	5	2	2	2	5	5	3	3	2	2
BİL 510	Information Theory	5	2	2	2	5	5	3	3	2	2
BİL 512	Programming Language Theory	5	3	4	5	5	3	2	3	2	4
BİL 514	Theory of Computation	5	2	2	2	5	3	3	3	2	2
BİL 520	Introduction to Cyber Security	4	5	5	5	5	3	5	3	4	4
BİL 525	Network Forensic Analysis	4	5	5	5	5	3	5	3	4	4
BİL 527	Network Defense Systems	4	5	5	5	5	3	5	3	4	4
BİL 531	Algorithm Analysis	5	5	2	4	5	5	3	3	2	2
BİL 533	Parallel Computation	5	5	5	4	4	3	3	4	3	4
BİL 535	Computational Geometry	5	5	2	4	5	5	3	3	2	2
BİL 536	Approximation Algorithms	5	5	2	4	5	5	3	3	2	2
BİL 537	Randomized Algorithms	5	5	2	4	5	5	3	3	2	2
BİL 541	Artificial Intelligence	5	5	5	4	4	4	3	5	5	4
BİL 542	Artificial neural networks	5	5	5	4	4	4	3	5	4	5
BİL 543	Expert Systems	3	5	5	4	4	4	3	5	4	5
BİL 546	Semantic Web	4	5	5	4	4	3	3	4	3	4
BİL 548	Internet Security Protocols	4	5	5	5	5	3	5	3	3	5
BİL 549	Feature Extraction	5	5	5	4	4	4	3	5	4	5
BİL 551	Data Communications and Computer Networks	5	5	5	4	4	3	3	4	3	4
BİL 553	Internet and Data Security	4	5	5	5	5	3	5	3	5	3
BİL 557	Wireless Networks	5	5	5	4	4	3	3	4	3	4
BİL 563	Digital Signal Processing	5	5	5	4	4	4	3	5	4	5
BİL 564	Pattern Recognition	5	5	5	4	4	4	3	5	5	4
BİL 565	Computer Architecture	4	3	2	3	3	2	3	3	5	3
BİL 569	Embedded Systems	4	3	2	3	3	2	3	3	5	3
BİL 570	Artificial Learning	5	5	5	4	4	4	3	5	5	4
BİL 573	Data Mining	5	5	5	4	4	4	5	5	5	4
BİL 574	Artificial Intelligence Applications in Finance	4	5	5	4	4	4	3	5	5	4
BİL 582	Software Engineering	5	5	5	5	4	3	5	4	5	4
BİL 589	Graph Theory	5	5	2	4	5	5	3	3	2	2
BİL 595	Bioinformatics	4	5	4	4	4	4	5	4	5	4
BİL 597	Seminar	0	0	0	2	2	0	0	5	0	3
BİL 598	Term project	4	4	4	4	4	4	4	4	4	4
BİL 599	Master Thesis	5	5	5	5	5	5	5	5	5	5

FBE 600	Scientific Research Techniques and Publishing Ethics	0	0	0	0	0	0	5	0	0	0	
---------	--	---	---	---	---	---	---	---	---	---	---	--