ELECTRICAL AND ELECTRONICS ENGINEERING DOCTORATE PROGRAM INFORMATION

General Information	TOBB ETÜ PH.D. program in Electrical and and Electronics Engineering Program, founded in 2012 gave its first graduates in 2015. There are currently 11 faculties in the department. The faculty does research mostly in the areas of microelectronics, control, communications, signal processing, biomedicals, optics/photonics and smart grid. Graduation from the program requires taking 7 (at least 9 ECTS each), respectively. Students can take some courses from outside of the department. Students are also required to take the ELE 697 Doctoral Seminar (8 ECTS), ELE 699 PhD Thesis course (120 ECTS)and FBE 600 Scientific Research Techniques and Publication Ethics course. There is also 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 Ph.D. Program in Electrical and Electronics Engineering is to educate successful engineers and academicians that are capable of leadership in serving the science and humanity and are strong in adapting to the ever-changing
Degree Earned	Ph.D. in Electrical and Electronics Engineering
Level of Degree Earned	Electrical and Electronics Engineering is a First-Cycle (PhD Degree – EQF 8) 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&sourceXmlSearch=). For graduation the thesis student should a) successfully complete at least 90 credits of courses, ELE 697 Graduate seminar, ELE 699 PhD 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 an SCI indexed journal paper.
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
Recognition of Prior Learning	A student arriving through the ÖSYM examination or by undergraduate transfer can substitute courses taken in a quitted previous higher education program. The substitution of the courses taken in a previous program, its equivalency and
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&sourceXmlSearch=). 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. All 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&sourceXmlSearch=). For graduation the thesis student should a) successfully complete at least 90 credits of courses, ELE 697 Graduate seminar, ELE 699 PhD 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 an SCI indexed journal paper.

Occupational Profiles of Graduated-Employment Opportunities	As of the end of 2017 our PhD program gave 7 graduates. Three of them are continuing their academic career as Assistant Professor in national universities and one of the is a post doc abroad. Other graduates are research engineers in defense in national industry.
Transition to a Upper Degree	

NQF-HETR PROGRAM QUALIFICATION MATRIX Program : Electrical and Electronics Engineering Related NQF-HETR Core Field: Engineering (Academic) - Doctorate				PROGRAM QUALIFICATIONS									
				1	2	3	4	5	6	7	8	9	10
CORE AREA QUALIFICATIONS	INFORMATION	Theoretical - Factual	Understands and applies the basic sciences, mathematics and engineering sciences at a high level.	x									
			Has extensive and in-depth knowledge including the latest developments in his / her field.		x	x	x		x	x		x	
	SKILLS	Cognitive - Applied	Has access to the most up-to-date information in an area and has a high level of competence in the methods and skills required to comprehend them.	x	x	x	x			x		x	
			Undertakes a comprehensive study that brings innovation to knowledge or technology, develops a new scientific method or technological product / process, or applies a known method to a new field.		x	x	x		x	x			
			Deviates and applies basic sciences, mathematics and engineering sciences at a high level.	x									
			Has extensive and in-depth knowledge including the latest developments in his / her field.		x	x	x		x	x	x	x	
			Perceives, designs, implements and concludes the original research process independently; it manages this process.				x	x	x				
	COMPETENCIES	Ability to work independently and to take responsibility	Contributes to the science and technology literature by publishing the outputs of his academic studies in a prestigious academic setting.		x			x		x		x	X
			Undertakes a comprehensive study that brings innovation to knowledge or technology, develops a new scientific method or technological product / process, or applies a known method to a new field.	x	x	x	x	x	x				
			Transfers scientific, technological, social and cultural developments to the assembly with the awareness of scientific impartiality and ethical responsibility.							x	x	x	X
		Learning Competence	Perceives, designs, implements and concludes the original research process independently; it manages this process.			x	x	x	x				
			Has access to the most up-to-date information in an area and has a high level of competence in the methods and skills necessary to comprehend them.		x	x	x					x	
			Undertakes a comprehensive study that brings innovation to knowledge or technology, develops a new scientific method or technological product / process, or applies a known method to a new field.		x	x	x	x	x	x			
			Contributes to the science and technology literature by publishing the outputs of his academic studies in a prestigious academic setting.		x			x		x	x	x	X
		Communication and Social Competence	Makes critical analysis, synthesis and evaluation of ideas and developments in the field of expertise.		x	x			x	x	x	x	X
			Communicates effectively with the professionals and the wider scientific and social communities in writing and verbal communication and communicate and discuss advanced written, oral and visual communication using a foreign language at least at the European Language Portfolio C1 General Level.						x	x	x	x	X
		Field Specific Competence	Evaluates scientific, technological, social and cultural developments and conveys the gathering with the consciousness of scientific impartiality and ethical responsibility.		x					x	x	x	X
			Interacts effectively with staff in the field of expertise and wider scientific and social communities in written and oral communication and communicate and discusses advanced written, oral and visual communication using a foreign language at least at the European Language Portfolio C1 General Level.						x	x	x	x	X

Electrical and Electronics Engineering Doctorate Program Qualifications

1	Understands and applies the basic sciences, mathematics and engineering sciences at a high level.
2	Has extensive and in-depth knowledge including the latest developments in his / her field.
3	Has access to the most up-to-date information in an area and has a high level of competence in the methods and skills required to comprehend them.
4	Undertakes a comprehensive study that brings innovation to knowledge or technology, develops a new scientific method or technological product / process, or applies a known method to a new field.
5	Perceives, designs, implements and concludes the original research process independently; it manages this process.
6	Awareness of the importance of university-industry collaboration; contribution to the interdisciplinary research groups performing such collaborative research
7	Contributes to the science and technology literature by publishing the outputs of his academic studies in a prestigious academic setting.
8	Evaluates scientific, technological, social and cultural developments and conveys the gathering with the consciousness of scientific impartiality and ethical responsibility.
9	Makes critical analysis, synthesis and evaluation of ideas and developments in the field of expertise.
10	Interacts effectively with staff in the field of expertise and wider scientific and social communities in written and oral communication and communicate and discusses advanced written, oral and visual communication using English language at least at the European Language Portfolio C1 General Level.

Doctorate Program Qualifications Course Matrix of Electrical and Electronics Engineering		Program Qualifications									
Code	**Course Name**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
ELE 670	Radar Signal Processing	5	3	5	3	3	4	3	3	4	3
ELE 671	Remote Sensing	5	4	5	3	3	4	3	3	4	3
ELE 672	Synthetic Aperture Radar Imaging	5	5	5	3	3	4	3	3	4	3
ELE 675	Array Signal Processing	5	5	5	3	3	4	3	3	4	3
ELE 676	Electronics Warfare	3	5	5	3	3	4	3	3	4	3
ELE 696	Advanced Research Topics	5	5	5	3	3	4	3	3	4	3
ELE 697	PhD Seminar	1	3	1	1	1	1	1	1	1	5
ELE 699	PhD Thesis Research	5	5	5	5	5	5	5	5	5	5
Note:	PhD students can take 5xx courses as well										