

T.C. YEDİTEPE UNIVERSITY
ELECTRICAL AND ELECTRONICS ENGINEERING
“DOCTOR of PHILOSOPHY (PhD) PROGRAM” INFORMATION PACKAGE

OBJECTIVES:

To produce engineers who:

1. can contribute to existing knowledge with original studies,
2. can do and manage research, development, and educational activities, in the field of Electrical and Electronics Engineering.

GOALS:

To produce engineers in the field of Electrical and Electronics Engineering who:

1. can develop original ideas and products,
2. can do and manage advanced research processes,
3. can do and manage educational activities.

STARTING DATE:

Fall Semester of 2007.

PhD PROGRAM LEARNING OUTCOMES:

The competences of the graduates of the “PhD Program in Electrical and Electronics Engineering” are as follows:

PO1. Comprehends and applies basic sciences, mathematics and engineering sciences at the highest possible level.

PO2. Demonstrates a thorough knowledge in Electrical and Electronics Engineering in breadth and depth including the current trends of development.

PO3. Designs, implements and completes an original research process independently; manages this process.

PO4. Can reach and grasp the most recent information in a field, has a high level of competence in the necessary methodology and skills to do research in this field.

PO5. Performs a comprehensive work that results in a new scientific method or technological product/process development, a scientific and technological innovation, or an application of a known method to a new area.

PO6. Contributes to the literature of science and technology by publishing the results of academic studies in respectable academic media.

PO7. Can critically analyze, synthesize and evaluate the ideas and developments in Electrical and Electronics Engineering.

PO8. Can communicate effectively with the Electrical and Electronic Engineers and the wider scientific and social communities in written and spoken Turkish; can establish written, oral and visual

communications, and can participate in discussions using one foreign language (English) at least at the General Advanced Level C1 of European Language Portfolio.

PO9. Evaluates scientific, technological, social and cultural developments, and transfers the outcomes to the society with scientific objectivity and ethical responsibility.

Teaching and Learning Methods

Teaching and learning methods and strategies are chosen to improve the student's skills such as self learning, lifelong learning, observation, presentation, critical thinking, team working and IT.

Also, to achieve a better learning with students having different learning styles, the program is supported by convenient methodologies given below*:

Teaching and Learning Methods	Major Learning Activities	Tools
Course (lecturing, discussion, question-answer)	Listening, thinking, understanding, interpretation, writing, observation, critical thinking, question development	Standard class ware, text book and class-notes, multimedia, data projector, computer, overhead projector
Problem Solving	Listening, thinking, understanding, interpretation, question development	Standard class ware, solutions manual, multimedia, data projector, computer, overhead projector
Simulation	IT skills, observation, thinking, understanding, verification	Computer, special software
Seminar	Listening, understanding, interpretation, question development, critical thinking, following advancements in EE, lifelong learning	Standard class ware, multimedia, data projector, computer, overhead projector, special equipment
Laboratory	Observation, measurement, recording of measurement results, interpretation, report writing, IT skills, organizational skills, teamwork	Special equipment
Term Research Paper	Research, investigation, thinking, interpretation, report writing, following advancements in EE, lifelong learning	Computer, internet database, library database

(*) Depending on the course specifications, one or more teaching and learning methods might be implemented

Course and PhD Program Learning Outcomes Relations

Course	PÇ1	PÇ2	PÇ3	PÇ4	PÇ5	PÇ6	PÇ7	PÇ8	PÇ9	
EE649	Special Topics in Electronics	5	5		1	1	1	5	5	1
EE659	Special Topics in Communications	4	4	4	4	4	4	4	4	4
EE689	Advanced Topics in Control Systems	5	5					5	5	
EE696	Special Topics in RF Systems	5	5					5	5	
EE690	PhD Seminar	5	4	4	4	3	4	3	5	4
EE700	PhD Thesis	5	5	5	5	5	5	5	5	5

Course and MSc Program Learning Outcomes Relations

Course	PÇ1	PÇ2	PÇ3	PÇ4	PÇ5	PÇ6	PÇ7	PÇ8	PÇ9	PÇ10	PÇ11	PÇ12	
EE515	Sensors	4	5	5	5	4	4	3	4	4	4	5	4
EE526	Biomedical Electromagnetics	5	5	5	5	5	4	5		4		5	
EE533	RF Circuit Design	4	5	4	4		4					4	
EE539	Analog IC Design	3	2	2	2	1	1	2	2	5	1	1	5

Course Categories	AKTS
COURSES	
EE649 - Special Topics in Electronics	10
EE659 - Special Topics in Communication	10
EE689 - Advanced Topics in Control Systems	10
EE696 - Special Topics in RF Systems	10
EE690 – PhD Seminar	2
EE691 – Proficiency Exam	30
EE 700 – PhD Thesis	150
EE515 - Sensors	10
EE526 - Biomedical Electromagnetics	10
EE533 - RF Circuit design	10
EE539 - Analog IC Design	10
Total ECTS	262

Level of Qualification:

Students who complete the program successfully and acquire the program competencies receive a “PhD” degree in the area of Electrical and Electronics Engineering.

Admission Requirements:

To apply for a doctorate program a Master’s degree must be held or expected to be held by the end of the term of application and the requirements given below must be met. Candidates are required to be successful in the interview held by the department they are applying for.

Application Documents	Ph.D.
Application Form	
Diploma (Recognition Certificate for Students Studied Abroad)	Bachelor’s and M.Sc. Degree Diplomas
ALES (is required for Turkish candidates) GRE (is recommended for foreigners)	ALES: 55 GRE: 149
English Proficiency	TOEFL IBT:66 YDS:55

Occupational Profiles and Continued Advance Education:

There is a wide range of “job and academic career” opportunities for our graduates. They will be able to find jobs in the disciplines of electronics, communication, signal processing, power and energy, electromagnetic fields and waves, control and automation. They do research in the public and private prestigious institutions or academic career in the prestigious universities of the world.

Graduation Requirements:

Those who can successfully complete 7 field courses (21 course credits), PhD Seminar, Qualifying Exam, thesis proposal and the PhD Thesis will graduate with a minimum of 240 ECTS and a minimum CGPA of 3.0.

Assessment Methods:

Exams (Quiz, Midterm, Final), Experiment, Homework, Project

Curriculum:

The Program Curriculum consists of 7 field courses (21 course credits) that weren't taken during the Master's Program, EE690-PhD Seminar and EE700 PhD Thesis. Courses can be taken from other universities with the approval of the academic advisor and by obeying the rules set by the Graduate School of Natural and Applied Sciences.

Department Chairman and Department Bologna Process Coordinator Contact Information:

Prof. Dr. Duygun Erol Barkana (Department Chairman)
+(90) 216 578 0430 duygunerol@yeditepe.edu.tr

Instructor Deniz Pazarcı (Department Bologna Process Coordinator)
+(90) 216 578 0430 pazarcideniz@gmail.com
