About Computer Engineering PhD Qualification Exam,

The exam consists of three (3) different sessions as follows: 1st written/undergrad, 2nd written/grad and oral as stated in ITU Grad Education Regulation and Senate Principles. (Please see items 13 and 14 - https://www.sis.itu.edu.tr/TR/mevzuat/lisansustu-esaslar.php)

The exam schedule and locations will be posted by Graduate School, ITU each semester. Further information is given as follows about the scope of the exams:

First Written – Undergrad Exam

In this exam, you should solve one question from six (6) out of seven (7) B.Sc. Computer Engineering Courses where you may either solve Computer Architecture OR Microprocessor Systems while the others are mandatory. Two (2) questions per course will be given during the exam (overall fourteen questions). The list of the courses are as follows:

i. Data Structures (Veri Yapıları)
ii. Digital Circuits (Sayısal Devreler)
iii. Formal Languages and Automata (Biçimsel Diller ve Otomata)
Computer Architecture (Bilgisayar Mimarisi)
iv. OR
Microprocessor Systems (Mikroişlemci Sistemleri)
v. Operating Systems (İşletim Sistemleri)
vi. Analysis of Algorithms (Algoritma Analizi)

Second Written – Grad Exam

Prior to this exam, you should select six grad-level courses among the set of classes announced by *Computer Engineering Phd. Qual. Exam Committee* where at least one of them should a math course (colored with red in the list). During the exam, you will be given overall twelve (12) questions based on your preference (two questions per class/course) and you should solve only one question from a course. List of grad-level courses is given below:

- BLG501E Discrete Mathematics - Ayrık Matematik
- BLG507E Distributed Systems - Dağıtılmış Sistemler
- BLG514E Basic Protocols in Computer Networks - Bilgisayar Ağlarında Temel Protokoller
- BLG517E Modeling and Performance Analysis of Networks - Ağların Modellenmesi ve Başarım Analizi
- BLG521E Artificial Intelligence - Yapay Zeka
- BLG527E Machine Learning - Makine Öğrenmesi
- BLG545E Discrete Optimization - Ayrık Eniyileme
- BLG549E Graph Theory and Algorithms - Çizge Kuramı ve Algoritmalar
- BLG557E Theory of Computation - Hesaplama Kuramı
- BLG560E Statistics and Estimation in Computer Science - Bilgisayar Bilimlerinde İstatistik ve Kestirim
- BLG601E Pattern Recognition - Örüntü Tanıma
- BLG602E Analysis and Design of Evolutionary Algorithms - Evrimsel Algoritmaların Analiz ve Tasarımı
- BLG603E Gelişmiş İşlemci Mimarileri - Enhanced Processor Architectures
- BLG607 Veri Madenciliği - Data Mining
- BLG608 Paralel Algoritmalar - Parallel Algorithms
- BLG614E Web Mining - Ağ Madenciliği
- BLG616E Cloud Computing - Bulut Bilişim
- BLG618E Machine Translation - Bilgisayarlı Çeviri

- BLG621 Doğal Dil İşlemede İstatistiksel Yöntemler - Statistical Methods in Natural Language Processing
- BLG622E Robot Intelligence - Robotlarda Zeka
- BLG624E Human-Robot Interaction - İnsan-Robot etkileşimi
- BLG625 Yazılım Tasarım Kalitesi - Software Design Qality
- BLG629E Pervasive Computing - Yaygın Hesaplama
- BLG630E Recommendation Systems in Software Engineering - Yazılım Mühendisliğinde Tavsiye Sistemleri
- BLG632E Next Generation Wireless Networks - Yeni Nesil Kablosuz Ağlar
- BLG633E Model Checking for Software Systems - Yazılım Sistemleri İçin Model Sınama
- BLG634E 3D Vision - 3-Boyutlu Görü
- BLG637E Cloud & Cyber Physical Systems Security - Bulut ve Bilgisayar Etkileşimli Fiziksel Dizgelerin Güvenliği
- BLG638E Deep Reinforcement Learning - Derin Pekiştirmeli Öğrenme
- BLG640E Security in Financial Information Systems - Finansal Bilgi Sistemlerinde Güvenlik
- BLG641E Medical Image Computing - Tıbbi Görüntü Hesaplama
- BLG643E Neuromorphic Computing - Nöromorfik Hesaplama
- KOM505E Olasılık Kuramı ve Rastlantı Süreçleri - Probability Theory and Stochastic Processes

Oral Exam

During the oral exam, jury members may ask questions from both undergrad and grad courses as well as from your research field/interests in order to evaluate your proficiency. For further details, you should contact your PhD advisor.

This document is updated on **Nov. 2023.**