

PhD Qualifying Examination Guidelines

GENERAL REQUIREMENTS

In order to continue their doctoral studies, all Ph.D. students are required to pass the Qualifying Examination. The Qualifying Examination will be given annually during the second week of each semester.

Full-time students who begin their Ph.D. coursework in first semester are required to take the Qualifying Examination within 2 years after enrollment.

The maximum time limit to take the qualifying examination is 4 semesters for all MS and PhD students, respectively, starting from the first day of admission. This does not include any approved study leaves.

Students may sit for the qualifying exam maximum of two times (1 QE/Semester). Second attempts must be made in next consecutive offering of the examination.

Students must be admitted to the PSU graduate on a full standing status with the Graduate School in order to appear for the qualifying examination.

Students are required to pass area examinations in four subjects.

Students who pass any subjects of the examination during the first attempt are not required to re-take that area in the subsequent examination.

Failure to pass the Qualifying Examination will result in the termination of candidacy.

Exam questions are based on a publicly announced list of required topics and suggested reading materials.

QUALIFYING EXAMINATION SUBJECTS

1. Two Mandatory:

1.1 Design and Analysis of Algorithms

Courses helpful in the exam area: 344-711 Design and Analysis of Algorithms

Recommended Text book and Resources for Qualifying Exams.

The following resources were the recommended resources for the qualifying exams held in September 2015. While many of these resources will be used again, there may be modifications made to this list. Please check this list frequently for updates.

1. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein, Introduction to Algorithms, 3rd Edition, The MIT Press, 2009.
2. Anany Levitin, Introduction to the Design and Analysis of Algorithms, 3rd Edition, Pearson, 2011

1.2 Computer Systems Organization

Courses helpful in the exam area: 344-721 Computer Systems Organization

Recommended Text book and Resources for Qualifying Exams.

The following resources were the recommended resources for the qualifying exams held in September 2015. While many of these resources will be used again, there may be modifications made to this list. Please check this list frequently for updates.

1. David A. Patterson and John L. Hennessy. Computer Organization and Design, Fifth Edition: The Hardware/Software Interface. Morgan Kaufmann, 2014.
2. William Stallings. Computer Organization and Architecture, 9th Edition. Prentice Hall, 2013.
3. Mano, M. M. Computer System Architecture, 3rd Edition. Prentice Hall, 1993.
4. Null, L. and Lobur, J. The Essentials of Computer Organization and Architecture, 2nd Edition. Jones and Barlett Publishers, 2006.

2. Two Discipline specific topics

TBA (To Be Announced)