Qualifier Exams
New Rules starting Fall 2020
Computer Science and Engineering

The qualifier exams will include two parts, a (1) Coursework component, and (2) Research component.

A. Coursework Component:

Students will be required to take three qualifier courses and pass them with a grade of GPA of 3.0 or higher for each course. Qualifier courses will be placed into the following qualifier groupings: (QG-1) Systems, (QG-2) Algorithms, (QG-3) Architecture, (QG-4) Data Science & AI, (QG-5) Applications. Students will select one qualifier course from each of three groups.

All students must select and pass three <u>qualifier-approved courses</u> from three distinct qualifier groups.

Each student should discuss their course selection with their advisor, but they do not need to declare courses in advance. If a student takes a course from the list of qualifier-approved courses and fails to achieve an adequate grade, they may choose to retake that same course to replace the grade, or take another course. In the latter case, the original qualifier grade will be replaced by the new grade for purposes of computing the qualifier course GPA.

Students must complete the qualifier course requirement within four semesters of starting. When the student has completed the qualifier course requirement, they must notify the CSE DGS office by filing the appropriate form.

Approved Qualifier Courses:

- **Systems:**
  CSE 60641: Graduate Operating System

- **Algorithms:**
  CSE 60111: Complexity and Algorithms

- **Architecture:**
  CSE 60321: Advanced Computer Architecture

- **Data Science and Artificial Intelligence:**
  tbd

- **Applications:**
  tbd

The Graduate Studies committee is in the process of approving specific courses for each of the five groupings. Some groups may have only one course, while other groups may include multiple options to select from.

General Coursework Requirement:
All graduate students entering the program without a master's degree will be required to take an Operating Systems course, an Algorithms course, and a Computer Architecture course, either as part of

their regular coursework or as part of their qualifier exams as specified above. Graduate students entering the degree with background in a different area must create a customized study plan in conjunction with their advisor and the DGS.

B. The Research Component:

The goal of the research component is to evaluate a student's ability to perform research at the PhD level. Students must complete the research component of the qualifier exam within 2 years of entry into the PhD program. This excludes early-start summer months.

Students must demonstrate research capability to their advisor through making a significant research contribution. Examples include: (a) serving as the first author or as a major contributing author to a workshop, conference, or journal submission, (b) writing a research survey. The research advisor is responsible for evaluating the research contribution.

Within 18 months of the student entering the program, the research advisor must determine whether the student has passed or failed the research component of the qualifier. The advisor must complete the Research-Qualifier form to indicate this decision and submit the form along with a sample of the student's research (i.e., proposal, poster, workshop paper) to the DGS office.   If the student fails the research qualifier, the DGS will form a committee composed of three faculty members. The committee will include the original advisor, if they plan to continue in that role. This committee will be responsible for determining whether a remediation plan is viable, executing such a plan, and forming a final judgement on the case within 6 months. If a student finds himself/herself without an advisor during this 6 period, then normal CSE PhD student rules apply and the student must identify an advisor by the start of the next semester in order to retain funding and to continue in the PhD program.

Review

We anticipate reviewing this process after one year, and again after the first cohort of incoming students has completed the process. Adjustments will be made as needed with input from all faculty.