Distributed and Networked Systems (DNS) Preliminary Examination Requirements

Before taking the DNS Preliminary Examination, the student must:

1. have completed the DNS gateway course (currently: Advanced Operating Systems Principles (381)) and two advanced DNS courses (such as Model Driven Middleware (396), Advanced Network Software Design (395), Model Driven Network and Middleware Analysis (396), Special Topics in Multimedia Systems and Applications (395), QoS-enabled Component Middleware (396), Wireless and Sensor Networks (396), Recent Advances in Distributed and Networking Systems (396), High-Performance Computing for Engineers (343) and Performance Evaluation of Computer Systems (384)), with a grade of B or better in each of these courses, and
2. have an overall GPA of 3.5 or higher in courses while a graduate student at Vanderbilt University

The composition of the examination committee will be as follows:

1. By August 1st (for those students taking the fall semester exam) or by December 15th (for those students taking the spring semester exam), the student must submit to the Computer Science Director of Graduate Studies (DGS): (a) the two advanced DNS courses over which the student wishes to be examined and who taught the courses, and (b) a one page description of the student’s research area. The student's research advisor should endorse the research description. If the student does not yet have a research advisor, the student is advised to seek the advice of a DNS faculty member in generating the research description.
2. The DGS, in consultation with the DNS area faculty, will then appoint the student's examination committee and will specify an examination committee chair. The examination committee will consist of three faculties plus the student's research advisor. One of the members, appointed by the DGS, will be from outside the DNS faculty. Thus, committee membership will vary for individual students, based upon their specific research area.

The DNS Preliminary Examination will consist of two parts: written and oral.

Written Component:

1. At least a month before the oral component of the prelim exam—and based on the student’s submitted material—the committee will specify a research topic along with 3-4 papers. Working completely independently, the student is to generate a critical summary report of the research topic using the specified papers as background. In addition, the examination committee may specify additional requirements for the report. For example, the student may be required to provide a comparative analysis of the techniques discussed in the papers, and state the relevance of this work to the student’s own area of research. The report must be the student's own work, but access to and use of other reference materials to substantiate the points made in the report is allowed and encouraged. References
must be properly documented and the report should be carefully proof-read to eliminate typos and grammatical errors. Four (hard) copies of the report must be submitted to the chair of the examination committee on the due date. The report should be approximately 10 pages long, including references.

2. Within 14 days following the assignment of the research topic, the student will submit the summary report to the examination committee chair.

3. Within 14 days of the summary report’s submission, and at least 2 days prior to the oral component, the committee will return written comments on the report to the student.

Oral Component:
1. Within 7 days of the summary report’s submission, the committee will schedule the oral component of the exam. This oral exam is to take place within 14 days after the summary report’s submission.

2. The oral component exam will be approximately two hours in length and will be organized roughly as follows:
   a. The student will present a 20 minute summary of their written component and answer questions from the committee for ~25 minutes.
   b. The student will answer questions related to: (a) the DNS gateway course (CS 381) and (b) the two specified advanced DNS courses taken by the student, with roughly 20 minutes allocated to answer questions from each course.

The student should check with the professors who taught their gateway and two advanced DNS courses for information on the topics that will be covered in the oral component of the exam, including reading lists.

Results:
1. The results of the exam will be conveyed to the student by the Director of Graduate studies after the entire CS faculty has met to evaluate the student's performance. The student’s performance in classes taken, the student’s overall academic record, research progress, and the student’s performance on the oral and written components will be considered. The final result may be:
   • pass with distinction,
   • pass,
   • pass with additional requirements,
   • fail, but allowed to retake the exam the following semester, or
   • fail and not allowed to retake the exam.

2. Students failing the exam but allowed to retake the exam the following semester are only allowed one attempt at retaking the exam.

3. Students given a pass with additional requirements will be given explicit conditions that must be completed before they can take the qualifying exam. For example, students may be required to revise their written component report. They may be required to retake the oral component. They may be required to take a specified class deemed necessary for their research.

4. After the results are announced, the student may meet with their examination committee to get additional details on their performance on the examination.
5. Students may appeal the result of the examination by providing written documentation to the DGS and to the Chair of the EECS Department. Such appeal processes will be handled on a case-by-case basis, deemed appropriate by the DGS and the EECS Department Chair.

Guidelines:
1. It is strongly recommended that students take the Preliminary Examination in the 4th or 5th semester after joining the graduate program with a CS Bachelor’s degree. Students joining after a M.S. degree should take the examination earlier.
2. A student should pick their research advisor within the second year of their graduate program. The research advisor can provide the student with specific advice on preparing for the Preliminary Examination. Since the exam is individualized, the examination committee membership and the specific content of the examination will vary from student to student.