University of North Dakota

Department of Computer Science

Graduate Qualifying Examination (GQE)

Update: June 2, 2015

Graduate Qualifying Examination (GQE) are two two-hour written and closed examinations offered in the fall and in the spring semesters by the Department of Computer Science. The GQE for the fall exam offers two sections, namely, Database Mgt Systems (DB) and Software Development (SD). The GQE for the spring offers two sections, namely, Operating Systems (OS) and Theoretical Foundations (TF).

The fall exam to be held usually around the second Saturday of September, and the spring exam to be held usually around the first Saturday of February.

The GQE is required for ALL graduate students, and students must commence taking the examination by the second semester of enrollment in order to be eligible for department funding consideration. Students who fail a section of the examination are required to enroll in the related course at the next offering.

The exams for the fall and the spring offering are made of approximately equal length, corresponding to the four fundamental area of computer Science, namely, Theoretical Foundation, Database management Systems, Operating System, and Software Development. Exam questions will cover the topics in a specific book are written and graded by (at least) two faculty members who have taught that course relevant to the area or have expertise in that area.

The reading list for the GQE consists of the current texts taught in the courses relevant to the four areas. The in-depth understanding of topics of these text books should assist the student to answer questions satisfactorily.

As of spring 2015, the reading list is as follows:

1. **Theoretical Foundation (TF):**
   a. Theory of Computing – A Gentle Introduction, Kimber-Smith (2001) (Chapters 1-6).
   b. Computational Complexity, Papadimitrion (1994) (Chapters 1 – 5, 9).
2. **Database Management System (DB):**
   a. Fundamental of Database System, 6th edition, Elmarsi/Navathe (Chapters 1-11, 15-16, 21- 24).
3. **Operating Systems (OS):**
   a. Operating Systems by Stallings, 8th edition.
4. **Software Development (SD):**
   a. Software Engineering Theory and Practice, 4th edition by Shari Lawrence Pfleeger and Joanne M. Atlee, Prentice Hall. 2010.

If you have any question or concern regarding any specific section of the GQE, you may contact the following faculty members:

TF: Dr. T. O'Neil or Dr. E. Kim

DB: Dr. H. Reza or Dr. W. Hu

OS: Dr. R. Marsh or Dr. J. Liu

SD: Dr. E. Grant or Dr. H. Reza

If you have any question or concern regarding GQE, please contact, Dr. Hassan Reza at reza@aero.und.edu.