Students take the Qualifying Examination after their first summer, the Thursday and Friday, prior to the start of the Fall semester.

The written examination has two parts: Chemical Physics and Quantum Mechanics. The examination questions are based on the course material in Physics 622 (Quantum Mechanics I), Physics 623 (Quantum Mechanics II), Chemistry 684 (Chemical Thermodynamics), Chemistry 687, (Statistical Mechanics) and Chemistry 691 (Quantum Chemistry), Physics 601 (Classical Mechanics) with optional questions based on the material in Physics 606 (Electrodynamics), and Chemistry 601 (Inorganic Chemistry). The examination is two half-days in length held at the same time and in the same place as the Physics Qualifying Examination.

The first day of the Qualifying Examination students choose either three or four questions from six questions that are based on the material in Physics 601, Physics 606, Chemistry 601, Chemistry 684, Chemistry 687, and Chemistry 691. On the second day the questions are identical to those on the Quantum part of the Physics Qualifying Examination.

The results of the Qualifying Examination are:

1. Pass
2. Conditional Pass with conditions set by the Qualifying Examination Committee
3. Fail