

Qualifying Exam Policy

Graduate Research and Academic Steering Panel (GRASP) Physics & Space Sciences Department Florida Institute of Technology

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The Qualifying Exam (QE) tests core areas of physics at the advanced undergraduate level. Passing these exams is required for all students planning to pursue a Ph.D. in the Department of Physics and Space Sciences – a pass on the exam qualifies you to take the Comprehensive Exam (see below). Students take the QE during their second year at FIT. Note that passing this exam is not required to obtain your Master's Degree.

1. The Qualifying Exam consists of 4 sections, testing the core areas of physics: Classical Mechanics (CM), Quantum Mechanics (QM), Electricity and Magnetism (EM) and Thermal and Statistical Mechanics (TSM) at the *advanced undergraduate level*. In the Table below, we provide a suggested text for each of these core areas of physics. *You are expected to be able to solve problems in all chapters of the texts listed*. Questions on the exam will be at the level of the end-of-chapter problems in the listed texts. They may or may not be taken directly from the texts. Sample exams are provided on the Department Website under the GRASP link.

Core Area	Suggested Text
Classical Mechanics	<i>Classical Dynamics</i> by Thornton & Marion
Electricity & Magnetism	<i>Introduction to Electrodynamics</i> by Griffiths
Quantum Mechanics	<i>Introduction to Quantum Mechanics</i> by Griffiths
Thermo/Stat Mech	<i>An Introduction to Thermal Physics</i> by Schroeder

2. Each core area exam of the QE will be 2 hours long and closed-book. Students may bring a hand-written equation sheet of standard size, with formulas on both sides of the page and marked with the student's name. Note that only equations are allowed on this sheet. No problem solutions or descriptions may be included on the equation sheet. A book of standard mathematical tables will be provided by the department.
3. A student who has an official GRE Physics Exam score of 67th Percentile or higher (i.e., top third) will receive an automatic "pass" on the QE. An official GRE report must be received from the testing agency and be part of the student's academic file (photocopies or scans are not accepted).
4. The CM and EM sections of the QE will be offered on the second Friday of the Fall Term, and the QM and TSM sections will be offered on the third Friday of the Fall Term. See fit.edu/registrar/calendar for the academic calendar.
5. Students failing one or more core area exams with a score of 66 or below must retake that exam. The QE will again be offered the second and third Fridays of the beginning of the Spring Term. Students that twice fail two or more sections will only be eligible for a terminal Master's degree and will not be admitted to Ph.D. candidacy. A student that twice fails one or more sections of the QE may lose financial support at the end of the Spring semester of their 2nd year, but a student who is otherwise in good academic standing may be supported for an extra semester if required to complete their Master's degree, subject to approval by the GRASP and Department Head.
6. Appeals may be made in writing to the GRASP. Both the student and the Major Advisor must each submit written justification for allowing a third (and final) retake of any section of the core physics Qualifying Exam.