

Diagnostic Exam Policy

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

2013 June 13

The diagnostic exam covers the following four fundamental physics subjects at undergraduate level: Mechanics, Electricity and Magnetism, Thermodynamics, and Modern Physics (Quantum Physics). All new graduate students, except those listed in item (7) below, must take the diagnostic exam during the orientation week prior to entering the graduate programs in physics or space sciences. The result of the exam will be used by the department and academic advisor to identify any deficiencies in the student's undergraduate preparation.

1. A letter will be sent to all admitted students informing them of the exam schedule, example problems, preparation techniques and policy.
2. The exam is closed book but students may bring their own 8.5x11-inch sheet with hand-written formulas on both sides – no problem solutions or descriptions may be included on this sheet. A book of standard mathematical tables will be provided by the department. The formula sheet will be collected after the exam for grading purposes.
3. Each of the four subject exams will be allocated one hour, and will be administered during the same session. These policies govern the administration of the tests themselves.
 - a. Students must take all required tests during a single session. Students are not allowed to postpone a test for a semester without express permission from the GRASP.
 - b. All students taking exams during a session must be present at the start of that session.
 - c. Exams will be anonymized for grading purposes by assigning each student a number. Mechanics exams will then be numbered 1xx, Electromagnetism exams 2xx, etc.
 - d. As the tests form a single unit which taken collectively can have a significant effect on a student's career, students may choose the order they take the exams in. This order must be declared to the coordinator at the beginning of the session.
 - e. The coordinator will keep a spreadsheet tracking which exams are given to students in each period, and which numbers. This will ensure effective administration of (3) and (4).
 - f. Time will be allowed between each exam to collect and distribute exams. All students who have completed their exams for the day will exit at this time. Students continuing for another exam will remain in the room.
4. Students who fail parts of the exam will be placed by their advisor in one of following remedies:
 - a. Take undergraduate classes as deficiency, particularly for those students who did not study the subjects at undergraduate level or if the deficiency is large. When the relevant undergraduate class is at 3xxx level, students should sign up for an independent study at the 4xxx level and will be responsible for doing the work in the 3xxx course plus additional work as assigned by the instructor. The deficiency courses must be passed with a grade B or better. Note that up to two

4xxx level undergraduate courses may be used as general credit hours toward a MS/PhD graduate degree. Deficiency courses cannot be used as substitutes for the required graduate courses on the same subject.

- b. Study the subject by working on homework problems assigned by the department. This option is recommended only in cases where the relevant course is not given in the current year or if the student came close to passing. Students are given a large number of homework problems which they have to finish with >80% done correctly before the beginning of the following semester. The students are then required to take a second diagnostic exam at the beginning of the following semester.
5. The department Graduate Teaching Assistantship (GTA) funds can only be used to pay for at most two deficiency courses.
6. Students who fail the diagnostic exam twice and do not complete deficiency courses within one year will not be eligible for GTA in the following year.
7. Students with a GRE physics subject score over 50% percentile are exempt.
8. Exemptions to the above rules for special cases are subject to approval by the GRASP and the department head.