Department of Space Science Comprehensive Exam

The Department of Space Science holds a day-long “comprehensive” written exam on the subjects of Plasma Physics, Electromagnetic Theory, and Thermal and Statistical Physics between the end of the Spring and start of the Summer semesters each year (typically mid-May). All students in the PhD and non-thesis MS programs must take this exam as soon as they have successfully completed all three corresponding courses:

- SPA 522  INTRODUCTION TO PLASMA PHYSICS
- SPA 622  CLASSICAL & QUANTUM STATISTICS
- SPA 631  WAVES AND FIELDS

The exam will be divided into three sections according to the subject areas above. Questions will be motivated by the topics covered in the corresponding courses. The exam will run from 9am to 5pm, and students may bring snacks and drinks. All phones and smart watches must be turned off for the duration of the exam. Only one student at a time may leave for a bathroom break.

Math tables (e.g. Schaum’s outlines Mathematical Handbook of Formulas and Tables) are permitted, along with non-programmable scientific calculators. All pages must have your UAH “A-number” at the top. Do not write your name or any other identifiable markings on your papers, as we want the graders to not be influenced by knowing whose paper they are looking at.

To continue in the PhD program, students must pass all 3 sections at the PhD level, defined to be a score of 60% or above. If a student fails to reach this threshold for any section or sections, they can have a second attempt at answering those sections the following year (sections passed at the PhD level do not need to be repeated). No third attempts will be granted.

Students in the non-thesis MS program must pass all 3 sections at the MS level, defined to be a score of 40% or above. If a student fails to reach this threshold for any section or sections, they can have a second attempt at answering those sections the following year. No third attempts will be granted.

A student who fails to reach the PhD level pass in any subject on their second attempt will not be able to continue in the PhD program. If such a student passed at the MS level, then they can transfer to the non-thesis MS program. Students who fail to pass at the MS level on their second attempt cannot complete the non-thesis MS program, and may transfer to the thesis option MS program. Irrespective of the program the students is enrolled in, the Space Science Comprehensive Exam may be taken a maximum of two times.

Copies of exam questions from previous years are available upon request from the Space Science Department.