

## **OSE Ph.D. Qualifying Examinations**

**General rules:** All students seeking a Ph.D. are required to attempt the Written Qualifying Examinations after their first complete academic year; they are required to have passed all four examinations before beginning their third academic year. Each exam may be attempted at most twice\*(see footnote below). Part-time students are not subject to the timetables above. The lowest passing score is 60%.

**Exam Rules:** All full-time PhD-degree seeking students are required to pass the PhD written qualifying exam with no more than two attempts at each tested area within their concentration before the beginning of their third academic year in the program. This exam is administered every August. Some exams that are administered by the Electrical and Computer Engineering department are offered in January as well as August.

(a) Common Exams:

(i) General Optics exam (Advanced Optics I (PHYC 463 or ECE 463), Experimental Techniques in Optics (PHYC 477L or PHYC 476L) and general knowledge of optics concepts) and (ii) the Electromagnetics exam (PHYC 511 or ECE 561). These two exams are common to all OSE concentrations.

(b) Concentration-specific Exams:

Optical Science: (i) Lasers Physics I, (PHYC 464 or ECE 464) (ii) Advanced Optics (PHYC 463 or ECE 463 and PHYC 554 or ECE 554)

Photonics: (i) Optoelectronic Semiconductor Materials and Device (ECE 570) (ii) Advanced Optics (PHYC 463 or ECE 463 and PHYC 554 or ECE 554)

Imaging Science: (i) Probability Theory and Stochastic Processes (ii) Advanced Optics (PHYC 463 or ECE 463 and PHYC 554 or ECE 554)

Quantum Optics: (i) Quantum Mechanics (PHYC 521) (ii) Laser Physics I (PHYC 464 or ECE 464)

Exit-examination requirement for MS Plan 2a: The Ph.D. qualifying examination will satisfy the exit- examination requirement for students enrolled in MS Plan 2a.

Grading out of the qualifying exam: The exam is waived for students who earn nothing less than a grade of an "A-" and an average GPA of 4.0 or greater on anyone of the four sets of four OSE-required core courses:

\* PLEASE NOTE THAT THE ELECTROMAGNETICS, GENERAL OPTICS, ADVANCED OPTICS, AND LASER EXAMS ARE OFFERED ONLY ONCE PER YEAR. THUS, IF YOU WISH TO HAVE TWO ATTEMPTS AT THESE EXAMS, YOU MUST SIT FOR THE EXAMS BEFORE YOUR 2ND YEAR BEGINS.