

Course Director: Paul S.-H. Park, Ph.D. (email - paul.park@case.edu)

Vision research is an exciting and multidisciplinary area that draws on the disciplines of biochemistry, genetics, molecular biology, structural biology, neuroscience, and pathology. This graduate level course will provide the student with broad exposure to the most recent and relevant research currently being conducted in the field. Topics will cover a variety of diseases and fundamental biological processes occurring in the eye. Regions of the eye that will be discussed include the cornea, lens, and retina. Vision disorders discussed include age-related macular degeneration, diabetic retinopathy, infectious retinopathies, and glaucoma. Instructors in the course are experts in their field and are members of the multidisciplinary visual sciences research community here at Case Western Reserve University. Students will be exposed to the experimental approaches and instrumentation currently being used in the laboratory and in clinical settings. Topics will be covered by traditional lectures, demonstrations in the laboratory and the clinic, and journal club presentations.

The purpose of this course is to provide the student with a broad overview of some of the current areas of research

Journal club presentations (40%) – 2 presentations (20% each)

Research proposal (35%)

Class participation (25%) – attendance 10%; participation during lectures and presentations 1

- Background material to provide context for your proposal.
- What others have done to address this problem, and why that wasn't sufficient.
- What you plan to do that is different from previous studies.
- Why your plan is novel, cutting edge, and should excite the reader.
- An overview of your methodology.
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