

# Herbert Wertheim School of Optometry and Vision Science

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## Overview

The Herbert Wertheim School of Optometry and Vision Science provides professional training in the art and science of vision care. The four-year professional program leads to the degree of Doctor of Optometry, which qualifies graduates to take the national and state board examinations required for licensure.

Doctors of Optometry are health-care professionals. Optometry is a primary health-care profession that encompasses the prevention and remediation of disorders of the vision system through examination, diagnosis, treatment, and/or management of visual efficiency, eye health, and related systemic manifestations. Optometry graduates are trained to diagnose eye diseases, including the ocular manifestations of systemic diseases. The scope of contemporary optometric practice provides practitioners with independent responsibility for nonsurgical pharmaceutical treatment of eye disorders and diseases.

Doctors of Optometry are educated in the sciences of anatomy, chemistry, physics, mathematics, neurology, bacteriology, microbiology, disease processes and detection, pharmacology, behavioral science, social science, public health, and many other related fields. The school provides four years of comprehensive training in vision care aimed at preparing primary eye care providers. The first and second years emphasize courses in the sciences that are foundational to optometry and pre-clinical training in the fundamentals of the optometric examination. Subjects taught include the anatomy and physiology of the eye and visual system; visual perception and sensitivity; optics; oculomotor functions and neurology; binocular vision and space perception; evidence-based optometry; systemic and ocular pharmacology; systemic disease and its ocular manifestations; infant vision; diagnosis and treatment of sensorimotor anomalies; contact lenses; and clinical examination of the visual system. Active responsibility for patient care begins in the spring of the second year. The third year is devoted to advanced training in management and rehabilitation of sensorimotor anomalies, diagnosis and treatment of anterior and posterior segment ocular disease, low vision, advanced procedures in disease diagnosis, and caring for patients in the school's primary care clinics. The fourth year consists of advanced patient care experience acquired in internal rotations through the school's specialty clinics in areas such as low vision, pathology, contact lenses, infant vision, community and geriatric health care, and external rotations through eye care centers located in leading hospitals, medical centers, and clinics across the country.

Optometry offers a wide variety of interesting, challenging, and rewarding careers in private practice, in hospitals and other health organizations, and in public service. The education and clinical experience gained at the Herbert Wertheim School of Optometry and Vision Science equip its graduates with the knowledge base and skills necessary to provide the highest level of contemporary vision care and to engage in lifelong learning to ensure they remain at the forefront of their profession.

## Optometric Residency Program

A one-year Optometric Residency program is available to Doctors of Optometry seeking advanced optometric training. Areas of clinical study include binocular vision, cornea and contact lens, low vision, ocular disease, pediatrics, community health, and primary care. Successful completion of the program leads to the awarding of the Optometric Residency Certificate.

For further information about the Optometric Residency Program, please email [optometry-residency@berkeley.edu](mailto:optometry-residency@berkeley.edu).

## Undergraduate Program

There is no undergraduate program offered by the Herbert Wertheim School of Optometry and Vision Science.

## Graduate Program

Optometry (<https://guide.berkeley.edu/graduate/degree-programs/optometry/>): OD

- Optometry (p. 1)
- Vision Science (p. 19)

## Optometry

### OPTOM 10 The Eye and Vision in a Changing Environment 2 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

Course covers introduction to the basis of common sight-reducing visual disorders with major public health implications for society--e.g., myopia, cataracts, diabetic hypertensive eye disorders, developmental disorders (e.g., lazy eye), and environmentally induced disease and disorders (solar eye burns, cataracts). Major approaches to the prevention, diagnosis, and treatment of common disorders will be addressed in terms of the biological and optical sciences underlying the treatment or prevention. Impact of eye care on society and health and care delivery will be reviewed.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

#### Additional Details

**Subject/Course Level:** Optometry/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Adams

## **OPTOM C10 The Eye and Vision in a Changing Environment 2 Units**

Terms offered: Spring 2010, Spring 2009, Spring 2008

Course covers introduction to the basis of common sight reducing visual disorders with major public health implications for society--e.g., myopia, cataracts, diabetic hypertensive eye disorders, developmental disorders (e.g., lazy eye), and environmentally induced disease and disorders (solar eye burns, cataracts). Major approaches to the prevention, diagnosis, and treatment of common disorders will be addressed in terms of the biological and optical sciences underlying the treatment or prevention. Impact of eye care on society and health and care delivery will be reviewed.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### **Additional Details**

**Subject/Course Level:** Optometry/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Adams

**Also listed as:** UGIS C10

## **OPTOM 39B Freshman/Sophomore Seminar 2 - 4 Units**

Terms offered: Fall 2010, Fall 2009, Fall 2008

Freshman and sophomore seminars offer lower division students the opportunity to explore an intellectual topic with a faculty member and a group of peers in a small-seminar setting. These seminars are offered in all campus departments; topics vary from department to department and from semester to semester. No prerequisites. Enrollment limits are set by the faculty, but the suggested limit is 25.

### **Rules & Requirements**

**Prerequisites:** Priority given to freshmen and sophomores

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 2-4 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Undergraduate

**Grading/Final exam status:** The grading option will be decided by the instructor when the class is offered. Final exam required.

## **OPTOM 84 Sophomore Seminar 1 or 2 Units**

Terms offered: Spring 2011, Spring 2010, Spring 2009

Sophomore seminars are small interactive courses offered by faculty members in departments all across the campus. Sophomore seminars offer opportunity for close, regular intellectual contact between faculty members and students in the crucial second year. The topics vary from department to department and semester to semester. Enrollment limited to 15 sophomores.

### **Rules & Requirements**

**Prerequisites:** At discretion of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

### **Hours & Format**

#### **Fall and/or spring:**

5 weeks - 3-6 hours of seminar per week

10 weeks - 1.5-3 hours of seminar per week

15 weeks - 1-2 hours of seminar per week

#### **Summer:**

6 weeks - 2.5-5 hours of seminar per week

8 weeks - 1.5-3.5 hours of seminar and 2-4 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Undergraduate

**Grading/Final exam status:** The grading option will be decided by the instructor when the class is offered. Final exam required.

## **OPTOM 98 Directed Group Study 1 Unit**

Terms offered: Fall 2024, Fall 2023, Fall 2022

Directed group study for undergraduates interested in the field of optometry.

### **Rules & Requirements**

**Credit Restrictions:** Enrollment is restricted; This course requires consent of instructor

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of directed group study per week

### **Additional Details**

**Subject/Course Level:** Optometry/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam required.

**Instructor:** Van Sluyters

## OPTOM 198 Directed Group Studies 1 - 4 Units

Terms offered: Spring 2011, Spring 2010, Spring 2009  
Directed group study for undergraduates interested in the field of Optometry.

### Rules & Requirements

**Credit Restrictions:** Enrollment is restricted; requires consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

### Additional Details

**Subject/Course Level:** Optometry/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

## OPTOM 200A Clinical Examination of the Visual System 2 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013  
Fundamentals of the optometric examination. The 200A course begins a five-semester journey (200A/B/C/D/E) designed to teach the theory and techniques of procedures in a routine optometric examination of the visual system. These include case history, entrance testing, refraction, phoropter testing, biomicroscopy techniques, direct ophthalmoscopy, binocular indirect ophthalmoscopy, and the signs and symptoms related to different refractive errors. Selected lectures on confidentiality of health care records, HIPPA compliance, ethical considerations, laws related to practice and vision care, as well as managed care and other insurance issues.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** 100A

## OPTOM 200AL Clinical Examination of the Visual System 3 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017  
Fundamentals of the optometric examination. Case history, visual acuities, objective and subjective methods of determining refractive status. Basic examination of anterior ocular structures and the ocular funds; perimetry.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 6 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## OPTOM 200B Clinical Examination of the Visual System 2 Units

Terms offered: Spring 2016, Spring 2015, Spring 2014  
Fundamentals of the optometric examination covering the theory and techniques of the various procedures that are part of a routine optometric examination of the visual system. In this course, students will learn diagnostic elements of the optometric examination, including increased proficiency in case history, entrance testing, refraction, phoropter testing, ocular health testing, case presentation, patient consultation, presbyopia testing, advanced biomicroscopy techniques, and the signs and symptoms related to different refractive errors. Selected lectures on confidentiality of health care records, HIPPA compliance, ethical considerations, laws related to practice and vision care, as well as managed care and other insurance issues.

### Rules & Requirements

**Prerequisites:** 200A

**Credit Restrictions:** Students will receive no credit for OPTOM 200B after completing OPTOM 100B.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** 100B

## **OPTOM 200BL Clinical Examination of the Visual System 3 Units**

Terms offered: Spring 2021, Spring 2020, Spring 2017

Theory and techniques of the various procedures that are part of a routine optometric examination of the visual system. In this course, students will be taught more diagnostic elements of the optometric examination, including increased proficiency in case history, entrance testing, refraction, phoropter testing, ocular health testing, case presentation, patient consultation, presbyopia testing, advanced biomicroscopy techniques, and the signs and symptoms related to different refractive errors.

### **Rules & Requirements**

**Prerequisites:** Opt 200A, Opt 200AL

**Repeat rules:** Course may be repeated for credit with advisor consent.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 6 hours of laboratory per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 200C Clinical Examination of the Visual System 2 Units**

Terms offered: Fall 2015, Fall 2014, Fall 2013

Fundamentals of the optometric examination. Case analysis of refractive, accommodative, and binocular anomalies. Pediatric examination techniques. Advanced methods of examining the peripheral ocular fundus, anterior chamber angle evaluation. Selected lectures on confidentiality of health care records, HIPPA compliance, ethical considerations, laws related to practice and vision care, as well as managed care and other insurance issues.

### **Rules & Requirements**

**Prerequisites:** 200B

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** 100C

## **OPTOM 200CL Clinical Examination of the Visual System 2 Units**

Terms offered: Fall 2019, Fall 2018, Fall 2017

Case analysis of refractive, accommodative, and binocular anomalies. Ocular health examination. Low vision examination techniques. Dry eye evaluation. Advanced methods of examining the peripheral ocular fundus and evaluating the anterior chamber angle.

### **Rules & Requirements**

**Prerequisites:** Optom 200BL

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 4 hours of laboratory per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructors:** Seino, Yu

## **OPTOM 200D Clinical Examination of the Visual System 2 Units**

Terms offered: Spring 2017, Spring 2016, Spring 2015

Fundamentals of the optometric examination. Lectures will focus on refractions, effective adds, pupil testing, optic nerve evaluation, and other appropriate topics in preparation for students to conduct direct patient care in third year clinics. Selected lectures on confidentiality of health care records, HIPPA compliance, ethical considerations, laws related to practice and vision care, as well as managed care and other insurance issues.

### **Rules & Requirements**

**Prerequisites:** 200C, 200CL

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Ozawa

## OPTOM 200DL Clinical Examination of the Visual System 2 Units

Terms offered: Spring 2021, Spring 2020, Spring 2017

Modification of the exam sequence for specific patient needs. Evaluation and management of tear film disorders; analysis of vision with cataract. Patient management and professional communications; legal and ethical issues; managed care and optometry.

### Rules & Requirements

**Prerequisites:** Optom 200C, Optom 200CL

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 4 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructors:** Ozawa, Yu

## OPTOM 200E Advanced Procedures in Ocular Disease Diagnosis and Management 2 Units

Terms offered: Fall 2024, Fall 2023

Instrumentation, techniques, and principles for examination, diagnosis, and treatment of ocular disease, including advanced laser trabeculoplasty, YAG capsulotomy, injections, suturing, dilation & irrigation, and peri-operative cataract care.

### Objectives & Outcomes

**Course Objectives:** To build on clinical skills and knowledge gained from previous courses that will enable interns to provide full scope contemporary optometric care. Lectures are used to present a context for the procedures and allow students to see how the skills can be applied in the clinic.

### Rules & Requirements

**Prerequisites:** OPTOM 200A, 200AL, 200B, 200BL, 200C, 200CL, 200D, 200DL

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructors:** Whiteside, Kanai, Shabazian

## OPTOM 200F Advanced Procedures in Ocular Disease Diagnosis and Management 2 Units

Terms offered: Spring 2025

Instrumentation, techniques, and principles for examination, diagnosis, and treatment of ocular disease, including ophthalmic laser instrumentation, surgical laser procedures, minor surgical techniques, pre- and post-operative considerations, thresholds for making appropriate surgical referrals, informed consent, and safety considerations.

### Rules & Requirements

**Prerequisites:** OPTOM 200E, OPTOM 200D, OPTOM 200C, OPTOM 200B, OPTOM 200A OPTOM 200DL, OPTOM 200CL, OPTOM 200BL, OPTOM 200AL,

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructors:** Whiteside, Shabazian, Kunai

## OPTOM 203A Geometric Optics 4 Units

Terms offered: Fall 2024

Geometrical methods applied to the optics of lenses, mirrors, and prisms. Thin lens eye models, magnification, astigmatism, prism properties of lenses, thick lenses.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture, 1 hour of discussion, and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 203A

## OPTOM 203B Optical System and Physical Optics 4 Units

Terms offered: Spring 2025

Principles of optical systems, principles and clinical applications of apertures and stops, aberrations and optical instruments. Optics of the eye. Selected topics in physical optics, diffraction, interference, polarization.

### Objectives & Outcomes

**Course Objectives:** to be able to apply basic principles to design systems or solve problems  
to understand basic principles underlying optical systems and physical optics

### Rules & Requirements

**Prerequisites:** 203A

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture, 1 hour of discussion, and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 203B

## OPTOM 205 Visual Perception Sensitivity 4 Units

Terms offered: Fall 2024

This course will provide a fundamental understanding of visual processing, so students will be able to (1) understand the limitations of the clinical procedures in an eye exam;(2) address patients' complaints and symptoms. Content covered includes psychophysical basis for clinical tests in acuity, perimetry, and color vision. The visual stimulus and photometry. Visual receptors, psychophysical methods and visual threshold, light sensitivity, contrast sensitivity, light and dark adaptation, temporal and spatial properties of visual function, color vision, visual illusion, how visual perception changes with age and disease, and the basis for advanced diagnostic procedures.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for OPTOM 205 after completing VIS SCI 104.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3.5 hours of lecture, 1 hour of discussion, and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 205

## OPTOM 206A Anatomy and Physiology of the Eye 2 Units

Terms offered: Fall 2024

The course begins with an overview of the gross anatomy and physiology of the eye, followed by a brief introduction of basic cellular biology and genetics. Subsequent lectures mainly focus on anterior parts of the eyeball to explore the anatomy, physiological function and related eye diseases in detail.

### Objectives & Outcomes

**Course Objectives:** To teach the fundamental knowledge about Anatomy and Physiology of the Eye with advanced molecular, cellular and genetic information that are related to ocular diseases in clinic diagnosis/treatment.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 7.5 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 206A

## OPTOM 206B Anatomy and Physiology of the Eye and Visual System 3 Units

Terms offered: Spring 2025

This course emphasizes learning the terminology, definitions and structural relationships of the bones, muscles, adnexa, vasculature and nervous tissue of the eye and orbit. Relevant clinical case examples will be used to highlight the application of basic anatomy and physiology for diagnosing and managing diseases and disorders of the eye and visual system. Topics covered include structure and function of the tissues of the eye, ocular appendages, vasculature, cranial nerves, and the central visual pathways. Basic concepts of physiological, neurological, embryological, and immunological processes as they relate to the eye and vision will be covered.

### Rules & Requirements

**Prerequisites:** OPTOM 206A

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture, 0.5 hours of discussion, and 1 hour of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 206B

## OPTOM 206C Anatomy and Physiology of the Eye and Visual System 2 Units

Terms offered: Not yet offered

Small group, seminar style course utilizing problem based learning to review and discuss clinical cases. This course is designed to give an overview of the anatomy and physiology of the eye, while also covering many other aspects of basic and clinical science in optometry, including the diagnosis and therapeutic treatment of disease. Scenarios related to professional responsibilities, ethical and legal issues, public health impact, health disparities, as well as the principles of diversity, equity and inclusion are addressed and incorporated in the cases.

### Rules & Requirements

**Prerequisites:** 206A-206B

**Credit Restrictions:** Students will receive no credit for OPTOM 206C after completing VIS SCI 106C.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Dumbleton

**Formerly known as:** Vision Science 206C

## OPTOM 206D Neuroanatomy and Neurophysiology of the Eye and Visual System 2 Units

Terms offered: Fall 2024

This course focuses on structure and function of the neurosensory retina, photoreceptors, RPE including blood supply. Current concepts of etiology and management of major retinal conditions. Overview of diagnostic techniques in retinal imaging, electrophysiologic testing and new genetic approaches. Structure and function of the early visual pathway, including retinal ganglion cells, optic nerves, lateral geniculate nucleus and visual cortex. Pupillary responses. Specialization in the visual cortex.

### Rules & Requirements

**Prerequisites:** 206A (must be taken concurrently)

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 7.5 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 206D

## OPTOM 213 Evidence Based Optometry 1 Unit

Terms offered: Fall 2015, Fall 2014, Spring 2014

Basic concepts in evidence-based optometry including various clinical study designs, potential sources of bias in each design as well as development of a systematic approach to evaluate strength of evidence from published studies, to identify potential limitations and develop appreciation for the importance of evidence-based practice as a practice philosophy.

### Objectives & Outcomes

**Course Objectives:** To demonstrate major strategies and tools for identifying reliable resources of evidence.

To familiarize students with the fundamental concept of EBO and the importance of implementing such practice;

To show the systematic approach of evaluating the strength and the quality of evidences;

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Liu

## OPTOM 215 Visual System Development 2 Units

Terms offered: Not yet offered

Development of the eye and the visual system. Normal development of the eye, retina, and central visual pathways. Effects of visual deprivation. Assessment of optical and visual function in human infants. Refraction and refractive error in infants and children. Development of visuomotor function, spatial vision, color vision, binocular vision, and depth perception. The issue of child abuse and the reporting requirements for optometrists suspecting abuse are discussed.

### Rules & Requirements

**Prerequisites:** 206B

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** Vision Science 215

## OPTOM 217 Oculomotor Functions and Neurology 2 Units

Terms offered: Spring 2025

Neuro-anatomical pathways for the control of eye position and movement, gaze holding, image stabilization, and tracking eye movement systems, oculomotor signs of disorders of the central nervous system (palsies, nystagmus, ophthalmoplegia, cog-wheel pursuits, saccadic dysmetria), the near visual-motor response and the synergistic coupling of accommodation and convergence, binocular misalignment (heterophoria and fixation disparity), and presbyopia.

### Rules & Requirements

**Prerequisites:** OPTOM 203A

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 7.5 weeks - 3 hours of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Otero-Milan

**Formerly known as:** Vision Science 217

## OPTOM 219 Binocular Vision and Space Perception 2 Units

Terms offered: Spring 2025

The goals of this course are to provide mastery of the fundamentals of binocular vision and to introduce the role of binocular vision in optometric primary care. Topics covered include: perception of space, direction and distance, binocular retinal correspondence, horopters, differential magnification effects and anomalies of binocular vision development, sensory vision, local stereopsis, static and dynamic stereopsis, binocular depth cues.

### Rules & Requirements

**Prerequisites:** OPTOM 203A

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 7.5 weeks - 3 hours of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Cooper

**Formerly known as:** Vision Science 219

## OPTOM 222A Optics of Ophthalmic Lenses 4 Units

Terms offered: Spring 2021, Spring 2020, Spring 2016

Optical and physical characteristics of ophthalmic lenses, to include spherical and aspherical surface of single and multifocal lens designs, and ophthalmic prisms. Lens power measurement methods, lens thickness power relationships and considerations in designing prescription eyewear. Characteristics of absorptive lenses, ophthalmic coatings, lens materials, and their role in ocular protection.

### Objectives & Outcomes

**Course Objectives:** Develop an understanding of ophthalmic dispensing principles and its proper clinical application.

Facilitate successful completion of Ophthalmic Optics related questions on the clinical and written NBO exam

To facilitate the appreciation for the field of ophthalmic optics pertaining to lens materials properties and the optics and properties of ophthalmic lenses.

To have in concept, an understanding of the overall process by which ophthalmic prescriptions are designed & fabricated.

To understand the proper utilization of ophthalmic materials, ophthalmic lenses and its design; its relationship to meeting the patient's visual needs in an Optometric practice.

### Rules & Requirements

**Prerequisites:** Vision Science 203A

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.



## OPTOM 222B Advanced Clinical Optics 2 Units

Terms offered: Fall 2015, Spring 2015, Fall 2014

Ophthalmic lens aberrations and minimization. Ophthalmic lens designs relating to anisometropia, aniseikonia, and high refractive errors. Optics of the eye, contact lens optics, and optical principles of low vision aids. Environmental vision and related ophthalmic standards.

### Objectives & Outcomes

**Course Objectives:** Develop an understanding of ophthalmic dispensing principles and its proper clinical application.

Facilitate successful completion of Ophthalmic Optics related questions on the clinical and written NBO exam.

To facilitate the appreciation for the field of ophthalmic optics pertaining to lens materials properties and the optics and properties of ophthalmic lenses.

To have in concept an understanding of the overall process by which ophthalmic prescriptions are designed & fabricated.

To understand the proper utilization of ophthalmic materials, ophthalmic lenses and their design; its relationship to meeting the patient's visual needs in an Optometric practice.

### Rules & Requirements

**Prerequisites:** 222A

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Formerly known as:** 122B

## OPTOM 226A Ocular & Systemic Pharmacology I 2.5 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

Basic pharmacology, terminology, and concepts (both pharmacodynamic and general and ocular pharmacokinetic principles (as applied to the eye and ophthalmic drugs)), FDA drug testing & approval process & clinical prescribing issues; systemic and ocular autonomic pharmacology; pharmacotherapy of anti-inflammatory and anti-allergy (ocular & systemic) drugs; pharmacology of pain control; anti-infective drugs (antibacterial); drugs for glaucoma.

### Objectives & Outcomes

**Course Objectives:** to examine the pharmacological properties (including mechanisms of action), of select groups of ophthalmic drugs used in the diagnosis and/or treatment of eye disease, including infections and glaucoma.

to familiarize you with basic pharmacology terminology and concepts (both pharmacodynamic and pharmacokinetic),

to examine the pharmacological properties (including mechanisms of action), of drugs for allergies, inflammation and pain.

to show how the autonomic nervous system can be manipulated pharmacologically (basic principles) & applications for ocular effects (diagnostic & therapeutic),

### Rules & Requirements

**Prerequisites:** Vision Science 206D

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 226B Ocular Pharmacology 2.5 Units**

Terms offered: Spring 2017, Spring 2016, Spring 2015

Basic pharmacology, terminology, and concepts (both pharmacodynamic and pharmacokinetic) as applied to the eye and ophthalmic drugs, clinical prescribing issues including formulation, dosing and prescribing, and pharmacotherapy of anti-inflammatory, centrally acting, hormonal and other "specialist" systemic drugs.

### **Rules & Requirements**

**Prerequisites:** 226A

**Credit Restrictions:** Students will receive no credit for OPTOM 226B after completing OPTOM 126.

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Gronert

## **OPTOM 230A Graduate General Clinical Practice 2 - 6 Units**

Terms offered: Fall 2015, Fall 2014, Fall 2013

General optometric practice for four hours per week per credit hour, including optometric examination, dispensing, consultation, and subsequent vision care of patients, performed independently by graduate student clinicians.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of clinic per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 230B Graduate General Clinical Practice 2 - 6 Units**

Terms offered: Spring 2023, Spring 2017, Spring 2016

General optometric practice for four hours per week per credit hour, including optometric examination, dispensing, consultation, and subsequent vision care of patients, performed independently by graduate student clinicians.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of clinic per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 231A Graduate Specialty Clinics 2 - 8 Units**

Terms offered: Fall 2015, Fall 2014, Fall 2013

Clinical examination of patients in designated specialty clinics. More than one clinical specialty may be taken simultaneously.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of clinic per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 231B Graduate Specialty Clinics 2 - 8 Units**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Clinical examination of patients in designated specialty clinics. More than one clinical specialty may be taken simultaneously.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of clinic per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

**Instructor:** Orel-Bixler

## OPTOM 236A Systemic Disease and its Ocular Manifestations 3 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

The pathophysiology, epidemiology, clinical diagnosis and management of systemic and ocular diseases will be discussed using lecture and problem-based learning approaches. Disease processes, clinical applications and pharmacotherapy will be emphasized throughout discussions on cellular injury, inflammation, infection, degeneration, neoplasia and toxicology. Also presented will be neurologic, cardiovascular, endocrine, pulmonary, rheumatologic, nutritional, genetic and congenital diseases and their relative ocular manifestations and considerations. Special deliberation will be given to public health concerns and disparities in health care, including race- and sex-based biases, decreased access to care, and increased incidence rates which may

### Rules & Requirements

**Prerequisites:** 200D. 236A is a prerequisite for 236B

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## OPTOM 236B Systemic Disease and its Ocular Manifestations 3 Units

Terms offered: Spring 2017, Spring 2016, Spring 2015

The pathophysiology, epidemiology, clinical diagnosis and management of systemic and ocular diseases will be discussed using lecture and problem-based learning approaches. Disease processes, clinical applications and pharmacotherapy will be emphasized throughout discussions on cellular injury, inflammation, infection, degeneration, neoplasia and toxicology. Also presented will be neurologic, cardiovascular, endocrine, pulmonary, rheumatologic, nutritional, genetic and congenital diseases and their relative ocular manifestations and considerations. Special deliberation will be given to public health concerns and disparities in health care, including race- and sex-based biases, decreased access to care, and increased incidence rates which may

### Rules & Requirements

**Prerequisites:** 236A

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## OPTOM 240 Diagnosis and Treatment of Sensory/Motor Anomalies 3 Units

Terms offered: Spring 2021, Spring 2020, Spring 2017

Diagnosis and treatment of heterophoria, accommodative, vergence and oculomotor anomalies including sensory anomalies and amblyopia. Rationale and methods for treatment with lenses, prism, occlusion, and vision training. Design and implementation of treatment programs.

### Rules & Requirements

**Prerequisites:** Vision Science 217 and 219

**Credit Restrictions:** Students will receive no credit for OPTOM 240 after completing OPTOM 140, or OPTOM 133.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2.5 hours of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Lee-Chen

**Formerly known as:** 140

## OPTOM 241 Advanced Management and Rehabilitation of Sensory/Motor Anomalies 3 Units

Terms offered: Fall 2019, Fall 2018, Fall 2017

Advanced diagnosis, prognosis and treatment of strabismus, neurologic oculomotor disorders, amblyopia, and other associated sensory anomalies. Assessment and management of developmental and acquired visual perceptual disorders in relationship to learning disabilities. Design and implementation of treatment programs.

### Rules & Requirements

**Prerequisites:** 240

### Hours & Format

**Fall and/or spring:** 15 weeks - 2.5 hours of lecture and 16 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

**Formerly known as:** 141

## OPTOM 246 Diagnosis and Treatment of Anterior Segment Ocular Disease 4 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013

This course series consists of the pathophysiology, pharmacotherapy, and clinical management of systemic and ocular diseases through a combination of lecture and problem-based learning approaches. Disease processes will be emphasized and include cellular injury and repair, inflammation, infection, degeneration, and neoplasia. Neurologic, cardiovascular, endocrine, pulmonary, and congenital disease, and their relative ocular manifestations will be presented. The basic principles of pharmacology will be followed by overviews of drugs used to treat diseases of each system. The role of the optometrist in the health care system will be emphasized.

### Rules & Requirements

**Prerequisites:** 236

### Hours & Format

**Fall and/or spring:** 15 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

**Formerly known as:** 146

## OPTOM 251 Low Vision and Geriatric Optometry 2.5 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013

Low Vision and Geriatric Optometry covers visual impairments, rehabilitation, and elderly care. Low Vision explores the causes of visual impairment, comparing definitions like legal blindness and WHO staging. It includes detailed discussions on low vision exams, devices (telescopes, magnifiers), and prescribing methods. Geriatric Optometry discusses issues and cases in visual/ocular function, sociology (ageism, elder abuse, housing, economics), physical and physiology-related concerns (falls, driving, polypharmacy, alcohol), public health (ethics, disparities, culturally competency, diversity, equity and inclusion (DEI), mental health (suicide, dementia), and environment (non-optical aids and services).

### Rules & Requirements

**Prerequisites:** 200D

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2.5 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

**Formerly known as:** 151

## OPTOM 256 Diagnosis and Treatment of Posterior Segment Ocular Disease 4 Units

Terms offered: Spring 2017, Spring 2016, Spring 2015

This course series consists of the pathophysiology, pharmacotherapy, and clinical management of systemic and ocular diseases through a combination of lecture and problem-based learning approaches. Disease processes will be emphasized and include cellular injury and repair, inflammation, infection, degeneration, and neoplasia. Neurologic, cardiovascular, endocrine, pulmonary, and congenital disease and their relative ocular manifestations will be presented. The basic principles of pharmacology will be followed by overviews of drugs used to treat diseases of each system. The role of the optometrist in the health care system will be emphasized.

### Rules & Requirements

**Prerequisites:** 246

### Hours & Format

**Fall and/or spring:** 15 weeks - 4 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

**Formerly known as:** 156

## OPTOM 260A Contact Lenses: Examination Principles and Practice 3 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019

Covers the physiological basis for fitting contact lenses. Effects of a contact lens on the tears, lids, and cornea. Examination procedures and instrumentation used in monitoring the ocular response to contact lenses. Contact lens inspection, care, and handling.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for OPTOM 260A after completing OPTOM 160A, or OPTOM 161A.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 2 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Satjawatcharaphong

**Formerly known as:** 160A

## OPTOM 270C Eyecare Business and Professional Management II 2 Units

Terms offered: Spring 2017, Spring 2016, Spring 2015  
Entrepreneurship, financing alternatives, business loans, human resources, marketing, personal finance, business law as it affects optometry.

### Rules & Requirements

**Prerequisites:** 270A

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## OPTOM 271A Exploring principles of practice management and modes of optometric practice 0.5 Units

Terms offered: Fall 2024, Fall 2023

Discussion of the numerous opportunities and modes of practice in optometry.

Discussion of business and management principles related to optometry, as well as basic financial literacy. Topics will include personal financial management, budgeting, and investing in order to develop financial stability upon graduation and maintain it in the future. Additional discussion will include the importance of managing personnel and patients, practicing cultural humility, understanding issues related to diversity and equity, as well as the importance of providing sustainable health solutions and promoting a more equitable healthcare environment.

### Objectives & Outcomes

**Course Objectives:** To establish the foundations of financial literacy and financial stability.

To understand the importance and significance of diversity, equity, and inclusion, as well as social determinants in healthcare.

To understand the importance of human resource management in healthcare and how it is critical to success and patient care.

To understand the various modes of practice in optometry and explore the numerous pathways of an optometric career in the healthcare system.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 0.25 hours of lecture and 0.25 hours of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Wang

## OPTOM 271B Exploring principles of practice management and modes of optometric practice 0.5 Units

Terms offered: Spring 2025, Spring 2024

This course is the second in a two-part series designed to evaluate the numerous opportunities and modes of practice in optometry. Principles of business and management will be introduced, as well as basic financial literacy. Topics covered will include management of personal finances, budgeting, and investing. Students will be introduced to the various opportunities available to optometrists and different modes of practice, as well as the importance of navigating business relationships and patient-provider interactions with an appreciation for cultural differences. Emphasis will be placed on raising the awareness of diversity and equity issues that are key to providing sustainable health solutions and an equitable healthcare environment.

### Objectives & Outcomes

**Course Objectives:** To establish the foundations of financial literacy and financial stability.

To understand the importance and significance of diversity, and inclusion, and social determinants in healthcare.

To understand the importance of human resource management in healthcare and how it is critical to success and patient care.

To understand the various modes of practice in optometry and explore the numerous pathways of an optometric career in the healthcare system.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 0.25 hours of lecture and 0.25 hours of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Wang

## OPTOM 272A Health Economics, Law and Policy for Optometrists 2 Units

Terms offered: Fall 2019

The course will examine the history of US health care, healthcare systems in other countries, key economic issues that drive health care costs, value-based models of care delivery, current laws and policies that impact optometrist and social determinants of health.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 281A Graduate Clinical Rounds 1 - 3 Units**

Terms offered: Fall 2015, Fall 2014, Fall 2013

Presentation and discussion of the diagnosis, etiology, prognosis, and treatment of selected clinical cases.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 281B Graduate Clinical Rounds 1 - 3 Units**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Presentation and discussion of the diagnosis, etiology, prognosis, and treatment of selected clinical cases.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 291A Optometry Research Project 1 Unit**

Terms offered: Fall 2015, Fall 2014, Fall 2013

Thesis research for optometry students. Presentation of research results.

### **Rules & Requirements**

**Prerequisites:** 290A-290B

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of discussion per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only. This is part one of a year long series course. A provisional grade of IP (in progress) will be applied and later replaced with the final grade after completing part two of the series.

**Instructor:** Cohn

**Formerly known as:** 191A-191B

## **OPTOM 291B Optometry Research Project 1 Unit**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Thesis research for optometry students. Presentation of research results.

### **Rules & Requirements**

**Prerequisites:** 290A-290B

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of discussion per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only. This is part two of a year long series course. Upon completion, the final grade will be applied to both parts of the series.

**Formerly known as:** 190A-190B

## **OPTOM 292A Graduate Optometry Seminar 1 - 3 Units**

Terms offered: Fall 2024, Fall 2023, Fall 2022

Graduate seminars on selected topics in clinical optometry.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 292B Graduate Optometry Seminar 1 - 3 Units**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Graduate seminars on selected topics in clinical optometry.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 298A Independent or Group Studies 1 - 6 Units**

Terms offered: Fall 2024, Fall 2023, Fall 2022

Directed studies on a selected topic(s) within optometry.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 298B Independent or Group Studies 1 - 6 Units**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Directed studies on a selected topic(s) within optometry.

### **Rules & Requirements**

**Prerequisites:** O.D. degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 299A Graduate Optometry Research 2 - 4 Units**

Terms offered: Fall 2015, Fall 2014, Fall 2013

Directed research on a selected topic within clinical optometry.

### **Rules & Requirements**

**Prerequisites:** O.D. Degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 299B Graduate Optometry Research 2 - 4 Units**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Directed research on a selected topic within clinical optometry.

### **Rules & Requirements**

**Prerequisites:** O.D. Degree

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Optometry/Graduate

**Grading:** Letter grade.

## **OPTOM 430A Optometry Clinics 4 Units**

Terms offered: Summer 2017 First 6 Week Session, Summer 2017

Second 6 Week Session, Summer 2016 Second 6 Week Session

Clinical practice in examination techniques and interpretation of clinical data. Primary care optometric exams.

### **Rules & Requirements**

**Prerequisites:** Opt 200D and Opt 200DL

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Summer:** 6 weeks - 24 hours of clinic and 3 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## **OPTOM 430B Optometry Clinics 9 Units**

Terms offered: Fall 2024, Fall 2023, Fall 2022

Examination of patients in a primary care setting, prescribing of optometric therapy, management of emergency procedures, and vision screenings of children and adults.

### **Rules & Requirements**

**Prerequisites:** 430A

### **Hours & Format**

#### **Summer:**

6 weeks - 37 hours of clinic, 1.5 hours of lecture, and 5 hours of seminar per week

8 weeks - 32 hours of clinic, 1 hour of lecture, and 4 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

**Instructor:** Revelli

## **OPTOM 430C Optometry Clinics 9 Units**

Terms offered: Spring 2025, Spring 2024, Spring 2023

Examination of patients in a primary care setting, prescribing of optometric therapy, management of emergency procedures, and vision screenings of children and adults.

### **Rules & Requirements**

**Prerequisites:** 430A

### **Hours & Format**

#### **Summer:**

6 weeks - 37 hours of clinic, 1.5 hours of lecture, and 5 hours of seminar per week

8 weeks - 32 hours of clinic, 1 hour of lecture, and 4 hours of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

**Instructor:** Revelli

## **OPTOM 432 Introduction to Clinical Topics for the New Clinician 2 Units**

Terms offered: Summer 2017 10 Week Session

This course is primarily intended to serve as an introduction to, as well as a review of, diseases, ocular conditions and topics that are commonly encountered during patient care. Since clinical faculty who teach during the summer will help to provide lectures, clinicians will also have the opportunity to meet Attendings in an informal setting.

### **Rules & Requirements**

**Prerequisites:** Optom 200D Clinical Examination of the Visual System

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Summer:** 10 weeks - 2.5 hours of lecture and 1 hour of discussion per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Ozawa

## **OPTOM 435 Advanced Procedures in Ocular Disease Diagnosis 2 Units**

Terms offered: Fall 2019, Fall 2018, Fall 2017

Instrumentation, techniques, and principles for examination, diagnosis, and treatment of ocular disease. Introduction to optometric informatics related to ocular disease.

### **Rules & Requirements**

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of lecture and 2 hours of laboratory per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## **OPTOM 440A Advanced Optometry Clinic 2.5 Units**

Terms offered: Summer 2017 First 6 Week Session, Summer 2017 Second 6 Week Session, Summer 2016 Second 6 Week Session

Optometric examination of patients in the primary care clinic performed independently by student clinicians under supervision of the clinical staff.

### **Rules & Requirements**

**Prerequisites:** 430C

**Repeat rules:** Course may be repeated for credit up to a total of 3 times.

### **Hours & Format**

**Summer:** 6 weeks - 2 hours of seminar and 16 hours of clinic per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## **OPTOM 440B Advanced Optometry Clinic 9 Units**

Terms offered: Fall 2024, Fall 2023, Fall 2022

Examination of patients in a primary care setting. Diagnosis, prognosis, treatment, patient management and follow-up.

### **Rules & Requirements**

**Prerequisites:** 440A and 441A

### **Hours & Format**

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

**Instructor:** Revelli



## OPTOM 440C Advanced Optometry Clinic 9 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019  
Examination of patients in a primary care setting. Diagnosis, prognosis, treatment, patient management and follow-up.

### Rules & Requirements

**Prerequisites:** 440A and 441A (offered Summer Session only)

### Hours & Format

### Additional Details

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

**Instructor:** Revelli

## OPTOM 441A Specialty Clinics 2.5 Units

Terms offered: Summer 2017 First 6 Week Session, Summer 2017 Second 6 Week Session, Summer 2016 Second 6 Week Session  
Examination, diagnosis, prognosis, treatment, and management of patients in the specialty clinics.

### Rules & Requirements

**Prerequisites:** 430C

**Repeat rules:** Course may be repeated for credit up to a total of 3 times.

### Hours & Format

**Summer:** 6 weeks - 2 hours of seminar and 16 hours of clinic per week

### Additional Details

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## OPTOM 441B Specialty Clinics 7 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013  
Examination, diagnosis, prognosis, treatment, and/or management of patients in specialty clinics; ocular disease, contact lenses, binocular vision, ophthalmic optics, and environmental and occupational vision.

### Rules & Requirements

**Prerequisites:** 440A and 441A (offered Summer Session only)

### Hours & Format

#### Summer:

6 weeks - 2.5 hours of seminar and 18 hours of clinic per week

8 weeks - 2 hours of seminar and 16 hours of clinic per week

### Additional Details

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## OPTOM 441C Specialty Clinics 7 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019  
Examination, diagnosis, prognosis, treatment, and/or management of patients in specialty clinics; ocular disease, contact lenses, binocular vision, ophthalmic optics, and environmental and occupational vision.

### Rules & Requirements

**Prerequisites:** 440A and 441A (offered Summer Session only)

### Hours & Format

#### Summer:

6 weeks - 2.5 hours of seminar and 18 hours of clinic per week

8 weeks - 2 hours of seminar and 16 hours of clinic per week

### Additional Details

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## OPTOM 450A Grand Rounds and Seminar 2 Units

Terms offered: Fall 2015, Fall 2014, Fall 2013  
Presentation of clinical cases demonstrating basic and advanced optometric care, including diagnosis, treatment, and patient management.

### Rules & Requirements

**Prerequisites:** 440A

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

**Instructors:** Bailey, Sheedy

**Formerly known as:** 450B-450C

## OPTOM 450B Grand Rounds and Seminar 2 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019  
Presentation of clinical cases demonstrating basic and advanced optometric care, including diagnosis, treatment, and patient management.

### Rules & Requirements

**Prerequisites:** 440A

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

**Instructor:** Revelli

## **OPTOM 452 Current Concepts in Ocular Disease 1 Unit**

Terms offered: Spring 2021, Spring 2020, Spring 2019

Recent advances in the detection, diagnosis, and management of ocular disease.

### **Rules & Requirements**

**Prerequisites:** 440B and 441B

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of seminar per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Letter grade.

## **OPTOM 490A Optometric Spanish - Beginner Level I 1 Unit**

Terms offered: Prior to 2007

This course provides an introduction to Spanish in its uses in a clinical optometry setting with the Spanish-speaking patient. Basic vocabulary and grammar acquisition and skill building exercises will help the practitioner perform conversations and procedures in simple but accurate and clear communications. The sounds and structures of Spanish, including the present tense and some other verbs will be covered. All materials will be taught and practiced in relation to their practical application in a clinical setting.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of lecture per week

**Summer:** 8 weeks - 2 hours of lecture per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 490B Optometric Spanish - Intermediate Level II 1 Unit**

Terms offered: Summer 2008 10 Week Session

This course provides vocabulary and grammar acquisition and skill building for the intermediate to advanced Spanish student who works with Spanish-speaking patients in the field of optometry. Emphasis is on practical, hands-on application of the materials: patient interviewing, doing various aspects of the eye exam, taking a history, and giving diagnostic, treatment, and follow-through information to the patient, with appropriate cultural sensitivity, taking into consideration the socio-cultural background of the patient. The goal is accurate and sophisticated communication.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1 hour of lecture per week

**Summer:** 8 weeks - 2 hours of lecture per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **OPTOM 499 Supervised Independent Study 1 - 12 Units**

Terms offered: Spring 2025, Fall 2024, Spring 2024

Independent study under control of Associate Dean for Student Affairs.

### **Rules & Requirements**

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1-12 hours of independent study per week

### **Summer:**

6 weeks - 2.5-18 hours of independent study per week

8 weeks - 1.5-22.5 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Optometry/Other professional

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## Vision Science

### VIS SCI 24 Freshman Seminars 1 Unit

Terms offered: Fall 2021, Spring 2021, Spring 2020

The Freshman Seminar Program has been designed to provide new students with the opportunity to explore an intellectual topic with a faculty member in a small-seminar setting. Freshman seminars are offered in all campus departments, and topics vary from department to department and semester to semester. Enrollment limited to 15 freshmen.

#### Rules & Requirements

**Repeat rules:** Course may be repeated for credit when topic changes.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of seminar per week

#### Additional Details

**Subject/Course Level:** Vision Science/Undergraduate

**Grading/Final exam status:** The grading option will be decided by the instructor when the class is offered. Final exam required.

### VIS SCI 39 Freshman and Sophomore Seminar 1.5 - 3 Units

Terms offered: Fall 2021, Spring 2021, Fall 2020

Freshman and sophomore seminars offer lower division students the opportunity to explore an intellectual topic with a faculty member and a group of peers in a small seminar setting. These seminars are offered in all campus departments; topics vary from department to department and from semester to semester. Enrollment limits are set by the faculty but the suggested limit is 25.

#### Rules & Requirements

**Repeat rules:** Course may be repeated for credit when topic changes.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5-3 hours of seminar per week

#### Additional Details

**Subject/Course Level:** Vision Science/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final Exam To be decided by the instructor when the class is offered.

### VIS SCI 84 Sophomore Seminar 1 or 2 Units

Terms offered: Fall 2024, Spring 2024, Fall 2023

Sophomore seminars are small interactive courses offered by faculty members in departments all across the campus. Sophomore seminars offer opportunity for close, regular intellectual contact between faculty members and students in the crucial second year. The topics vary from department to department and semester to semester. Enrollment limited to 15 sophomores.

#### Rules & Requirements

**Prerequisites:** At discretion of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

#### Hours & Format

##### Fall and/or spring:

5 weeks - 3-6 hours of seminar per week

10 weeks - 1.5-3 hours of seminar per week

15 weeks - 1-2 hours of seminar per week

##### Summer:

6 weeks - 2.5-5 hours of seminar per week

8 weeks - 1.5-3.5 hours of seminar and 2-4 hours of seminar per week

#### Additional Details

**Subject/Course Level:** Vision Science/Undergraduate

**Grading/Final exam status:** The grading option will be decided by the instructor when the class is offered. Final exam required.

### VIS SCI 199 Supervised Independent Study and Research 1 - 4 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

Supervised independent study and research. Enrollment restrictions apply; see the Introduction to Courses and Curricula section of this catalog.

#### Rules & Requirements

**Prerequisites:** Upper division status and consent of instructor, the student's major adviser and the departmental chair

**Repeat rules:** Course may be repeated for credit without restriction.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

**Summer:** 8 weeks - 1.5-7.5 hours of independent study per week

#### Additional Details

**Subject/Course Level:** Vision Science/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam required.

## VIS SCI 201A Seminar in Vision Science 2 Units

Terms offered: Fall 2024, Fall 2023, Fall 2021

Graduate seminar in vision science.

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** VS faculty

## VIS SCI 201B Seminar in Vision Science 2 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

Graduate seminar in vision science.

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Gronert

## VIS SCI 230 Ethics in Scientific Research 2 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

This seminar will examine a range of ethical issues that arise in the process of doing science. Beginning with the philosophical and social foundations, we will consider the pathogenesis of fraud, statistics and deception, the ethics of authorship and publication, research with human subjects, the use of animals, the definition(s) of misconduct and the difference between misconduct and questionable research practices, the relationship between industry and science, and finally, the responsibilities and obligations of the scientist in society.

### Hours & Format

**Fall and/or spring:** 15 weeks - 30 hours of seminar per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

## VIS SCI 260A Optical and Neural Limits to Vision 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2022

The course will provide an overview of the early stage limits to human vision, from the eye's optics to sampling and processing in the retina. Students will learn basic optical properties of the eye as well as objective and subjective techniques on how to measure limits of human vision. The class will comprise a combination of lectures and active learning by the students in the form of a project, to be presented at the end of the semester. This is one of the four courses that form the Vision Science core curriculum.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Austin Roorda

## VIS SCI 260B Introduction to Ocular Biology 3 Units

Terms offered: Fall 2024, Fall 2023, Fall 2020

The course will provide an overview of eye development, anterior eye ocular anatomy and physiology and ocular disease. The course will be a combination of didactic lectures and problem-based learning. This is one of the four courses that form the Vision Science core curriculum.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Suzanne Fleiszig

## VIS SCI 260C Introduction to Visual Neuroscience 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

The course will provide an overview of the neuroscience of vision, spanning the entire neural pathway from retinal neurobiology to cortical processing of visual signals. The class will comprise a combination of lectures and active learning by the students in the form of a project, to be presented at the end of the semester. This is one of the four courses that form the Vision Science core curriculum.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Michael Silver

## VIS SCI 260D Seeing in Time, Space and Color 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

The course will provide an overview of how we see in time (temporal signal processing, eye motion, motion detection), space (stereo vision, depth perception), and color as well as the anatomical and physiological factors that facilitate these capabilities. The course will be series of didactic lectures. This is one of the four courses that form the Vision Science core curriculum

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Martin Banks

## VIS SCI 262 Visual Cognitive Neuroscience 3 Units

Terms offered: Fall 2021, Fall 2018, Spring 2016

The course will provide an overview of visual cognitive neuroscience, drawing from neuroanatomy, neurophysiology in humans and animal models, psychophysics, neuroimaging, neuropharmacology, neuropsychology, and computational models of vision and cognition. Topics will include basic anatomy and physiology of the mammalian visual system, motion perception and processing, depth perception and representation of visual space, brightness and color, object and face recognition, visual attention, developmental and adult plasticity, perceptual learning, multisensory integration, and visual awareness.

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Silver

## VIS SCI 265 Neural Computation 3 Units

Terms offered: Fall 2024, Fall 2022, Fall 2020

This course provides an introduction to the theory of neural computation. The goal is to familiarize students with the major theoretical frameworks and models used in neuroscience and psychology, and to provide hands-on experience in using these models. Topics include neural network models, supervised and unsupervised learning rules, associative memory models, probabilistic/graphical models, and models of neural coding in the brain.

### Rules & Requirements

**Prerequisites:** Calculus, differential equations, basic probability and statistics, linear algebra, and familiarity with high level programming languages such as Matlab

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Olshausen

## VIS SCI C265 Neural Computation 3 Units

Terms offered: Not yet offered

This course provides an introduction to the theory of neural computation. The goal is to familiarize students with the major theoretical frameworks and models used in neuroscience and psychology, and to provide hands-on experience in using these models. Topics include neural network models, supervised and unsupervised learning rules, associative memory models, probabilistic/graphical models, and models of neural coding in the brain.

### Rules & Requirements

**Prerequisites:** Calculus, differential equations, basic probability and statistics, linear algebra, and familiarity with high level programming languages such as Matlab

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Olshausen

**Also listed as:** NEU C231

## VIS SCI C280 Computer Vision 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

Paradigms for computational vision. Relation to human visual perception. Mathematical techniques for representing and reasoning, with curves, surfaces and volumes. Illumination and reflectance models. Color perception. Image segmentation and aggregation. Methods for bottom-up three dimensional shape recovery: Line drawing analysis, stereo, shading, motion, texture. Use of object models for prediction and recognition.

### Rules & Requirements

**Prerequisites:** MATH 1A; MATH 1B; MATH 53; and MATH 54 (Knowledge of linear algebra and calculus)

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

**Instructor:** Malik

**Also listed as:** COMPSCI C280

## VIS SCI 298 Group Studies, Seminars, or Group Research 1 - 6 Units

Terms offered: Spring 2025, Fall 2024, Spring 2024

Group studies of selected topics. Advanced studies in various subjects through special seminars on topics to be selected each year, informal groups studying special problems, group participation in experimental problems and analysis.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2-6 hours of lecture per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Letter grade.

## VIS SCI 299 Research in Vision Science 1 - 12 Units

Terms offered: Summer 2025 First 6 Week Session, Spring 2025, Fall 2024

Research.

### Rules & Requirements

**Prerequisites:** Consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 0-0 hours of independent study per week

### Summer:

6 weeks - 1-16 hours of independent study per week

8 weeks - 1-12 hours of independent study per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## VIS SCI 300 Teaching Methods in Vision Science 1 Unit

Terms offered: Spring 2025, Spring 2024, Spring 2023

Instruction in teaching methods and materials, in vision science and optometry; practice teaching in classrooms and laboratory.

### Rules & Requirements

**Prerequisites:** Graduate standing in vision science

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture per week

### Additional Details

**Subject/Course Level:** Vision Science/Professional course for teachers or prospective teachers

**Grading:** Offered for satisfactory/unsatisfactory grade only.

**Instructor:** Silver

## VIS SCI 375A Teaching Methods in Vision Science, I 1 Unit

Terms offered: Fall 2024, Fall 2023

Instruction in teaching methods and materials in vision science and optometry; practice teaching in classroom and laboratory. Lectures, discussion and outside work related to learning effective teaching styles, developing optimal teaching environments, accessing teaching resources, and fostering professional development.

### Rules & Requirements

**Prerequisites:** This course is restricted to student in the Vision Science graduate program

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Vision Science/Professional course for teachers or prospective teachers

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## VIS SCI 375B Teaching Methods in Vision Science, II 1 Unit

Terms offered: Spring 2025

Instruction in teaching methods and materials in vision science and optometry; practice and reflect on teaching in the classroom and laboratory. Lectures, discussion and outside work related to teaching methods and assessment of student learning, including lecture-based, problem-based, active, and inquiry-based learning. Instruction on student engagement and effective communication.

### Rules & Requirements

**Prerequisites:** This course is restricted to students in the Vision Science graduate program

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Vision Science/Professional course for teachers or prospective teachers

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## VIS SCI 601 Individual Study for Master's Students 1 - 6 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019

Individual study for the comprehensive requirements in consultation with the adviser in vision science.

### Rules & Requirements

**Prerequisites:** Consent of instructor

**Credit Restrictions:** Course does not satisfy unit or residence requirements for master's degree.

### Hours & Format

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

### Additional Details

**Subject/Course Level:** Vision Science/Graduate examination preparation

**Grading:** Offered for satisfactory/unsatisfactory grade only.

## **VIS SCI 602 Individual Study for Doctoral Students 1 - 6 Units**

Terms offered: Fall 2024, Fall 2023, Fall 2022

Individual study in consultation with the adviser in vision science, intended to provide an opportunity for qualified students to prepare themselves for the various examinations required for the Ph. D.

### **Rules & Requirements**

**Prerequisites:** Consent of instructor

**Credit Restrictions:** Course does not satisfy unit or residence requirements.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 0 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Vision Science/Graduate examination preparation

**Grading:** Offered for satisfactory/unsatisfactory grade only.