

# VISION SCIENCE (MS)

## Overview

The Master of Science in Vision Science prepares students to embark on a career in teaching and/or research in the basic or clinical science of vision. Students accepted into the program must be enrolled at SCCO at MBKU in the professional optometry program, hold a Doctor of Optometry or Doctor of Medicine degree, or hold a bachelor's degree from a university in the U.S. or Canada.

The need for new knowledge in the vision sciences is great; teaching and research opportunities are numerous in a spectrum of academic, industrial and professional settings. Although the program has sufficient structure to provide a broad foundation of scientific knowledge of vision systems, it is at the same time appropriately flexible to permit candidates to develop expertise in areas of special interest.

There are four tracks currently offered.

1. A concurrent program for students currently applying to or enrolled in the SCCO Doctor of Optometry program.
2. Stand-alone full-time two-year program for students with an earned Doctor of Optometry or Medical degree.
3. Stand-alone full-time program for students with an earned bachelor's degree from a University in the United States or Canada.
4. Part-time program for individuals listed in 2 and 3 above.

All of these tracks incorporate the development and presentation of seminars and formal lectures in specific courses to develop the candidates' educational skills.

The Master of Science in Vision Science tracks require the equivalent of two years full-time study, including 20 quarter credit hours for core and elective didactic coursework, as well as a minimum of 40 credit hours of research, culminating in a written thesis.

## Admissions

The Master of Science in Vision Science is a research-based graduate degree. Research is a vital part of the ongoing development of the profession since it provides the basis for new understanding and new treatments of vision conditions. The research undertaken in fulfillment of the Master of Science degree will provide new knowledge for the profession and train the candidate in the conduct of sound research as a potential future educator and researcher.

SCCO's Master of Science in Vision Science program at MBKU seeks to admit students possessing the qualities and motivation necessary for success in clinically applied research. Admission is based on an assessment of both academic and non-academic qualifications including: an application, letters of recommendation, personal statement, and the admissions interview.

All applicants must submit undergraduate and graduate transcripts with a minimum grade point average of 3.00, an application which may be obtained from the website [ketchum.edu/optometry/ms\\_in\\_vision\\_science](https://www.ketchum.edu/optometry/ms_in_vision_science) (<https://www.ketchum.edu/optometry/admissions/ms-vision-science/>), and a \$50 non-refundable application fee, letters of recommendation attesting to the applicant's ability in the area of research, a 300-500 word personal statement of interest, including current goals, personal career plans, reasons for selecting a field of study and a current curriculum vitae. In addition, applicants interested in concurrent Doctor of Optometry

and Master of Science in Vision Science enrollment must submit OAT scores (or other appropriate test results, such as, MCAT, DAT, or GRE). Applicants who already hold a Doctor of Optometry degree must submit NBEO scores.

Additional requirements for applicants who are not U.S. citizens or permanent U.S. residents include having graduated from an optometry or medical school that has comparable training to a U.S. optometry or medical program. Applicants need to be English-speaking or have demonstrated satisfactory command of the English language by taking the Graduate Record Examination (GRE) and the Test of English as a Foreign Language (TOEFL). The TOEFL can be replaced by the International English Language Testing System (IELTS). The minimum acceptable scores are: GRE (300), TOEFL (80), TSE (50) and IELTS (7.0). All tests must be taken within two years of applying for the Master of Science in Vision Science program.

All foreign applicants will need to provide proof of adequate funds to cover all fees and expenses for the entire graduate program as a condition for the issuing of a visa to enter the U.S. These applicants are not eligible for funding (e.g., teaching assistant, research assistant, school grants or aid) to pursue the Master of Science degree. Interviews are required of all applicants.

The application deadline for individuals applying for the combined OD/MS program is the end of the 8th week of the Fall quarter of their first year in the OD program. Other applicants should apply a minimum of 3 months before the quarter in which they wish to start the MS program.

## Accuracy of Information

The submission of any false or misleading information of any kind in support of an application for admission to the graduate programs of the SCCO at MBKU can result in the permanent cancellation or rescission of admission by the assistant dean for graduate studies. It is the responsibility of the applicant that all information is accurate and complete.

## Financial Information

### Tuition

#### 2023-2024 Tuition, Master of Science in Vision Science

The tuition for the Master of Science in Vision Science program is \$6,000 per quarter (4 quarters per year). Currently, this program tuition is waived for candidates also concurrently enrolled in the Doctor of Optometry program.

Annual Tuition & Fees	Full-Time Class Tuition	Class Fee	Mandatory Equipment & Materials	Student Association Fee	Graduation Fee	Total Annual Tuition and Fees
Class of 2023	\$6,000.00	NA	NA	NA	NA	\$6,000.00
Class of 2024	\$24,000.00	NA	NA	\$70.00	\$115.00	\$24,185.00
Class of 2025	\$18,000.00	NA	NA	\$70.00	NA	\$18,070.00

Quarterly Tuition & Fees	Summer	Fall	Winter	Spring	Total Tuition and Fees
Class of 2023	\$6,000.00	NA	NA	NA	\$6,000.00

Class of 2024	\$6,000.00	\$6,070.00	\$6,000.00	\$6,115.00	\$24,185.00
Class of 2025	NA	\$6,070.00	\$6,000.00	\$6,000.00	\$18,070.00

Fee	Amount
Tuition (less than full-time) per credit hour	\$800

While the occasion has not previously presented itself, the MBKU Board of Trustees does reserve the right to change tuition and fees or to establish additional fees for special features or services if deemed necessary.

## Curriculum

The Master of Science in Vision Science is a research-based graduate degree. Research is a vital part of the ongoing development of the profession and is incorporated into the mission statement of SCCO. The program emphasizes hypothesis-driven research and the development of analytical skills in experimental optometry and vision science.

Each of the program tracks incorporates the development and presentation of seminars and formal lectures in specific courses to develop the students' skills in scientific presentations. Moreover, all degrees incorporate the design and conduct of an original research project, a written thesis and defense of the thesis before a graduate committee.

The required coursework taken in the Master of Science in Vision Science program provides the student with an in-depth understanding of vision science principles and concepts. The elective coursework further emphasizes the specific sub-discipline that is of interest to the student. The research undertaken in fulfillment of the Master of Science degree will provide new knowledge for the profession and train the student in the conduct of sound research. Thus, the background in the required and elective coursework combined with the research training prepares the student to enter a career as an educator and/or researcher. This career could be in an academic, institutional, corporate, or clinical setting.

## Graduation Requirements

Completion of the program requires a total of 60 credit hours. 40 credit hours are from the research thesis (BVS 960 Thesis). The remaining 20 credit hours are course work which includes three required courses (BVS 901 Teaching in the Visual Sciences, BVS 902 Biostatistics, BVS 952 Ethics in Research), 2 core courses, and 2 elective courses.

A student will be recommended for the degree of Master of Science in Vision Science, provided the candidate:

- Has completed all prescribed academic requirements;
- Has completed a minimum of 60 quarter-hours of graduate credit;
- Is not on academic probation in the MS program, has a cumulative grade point average of 3.0 or higher, and has no outstanding grade which is incomplete;
- Has completed the Master's research requirement of successful defense of the Master's thesis and submission of a final bound copy of the thesis. The paper must be of publication quality.

The degree will not be conferred, and the diploma will not be issued until all graduation requirements are met.

## Transfer Policy

The Master of Science in Vision Science program does not accept transfer students or offer advanced standing under any circumstances.

## Courses

### Required Courses

Code	Title	Hours
BVS 901	Teaching in the Visual Sciences	2.00
BVS 902	Biostatistics	2.00
BVS 952	Ethics in Research	2.00
BVS 960	Thesis (variable credits)	0

### Core Courses

Code	Title	Hours
BVS 910	Ocular Anatomy & Physiology	2.00
BVS 910A	Ocular Anatomy & Physiology - A	4.00
BVS 920	Sensory Neuroscience	2.00
BVS 920A	Sensory Neuroscience A	4.00
BVS 940	Visual Optics	2.00
BVS 940A	Visual Optics A	4.00
BVS 950	Sensory Processes & Perception	2.00
BVS 950A	Sensory Processes & Perception A	4.00
BVS 951	Psychophysical Mthd & Exprmntl Dsgn	2.00
BVS 951A	Psychophysical Mth & Expmntl Dsgn A	4.00

### Elective Courses

Code	Title	Hours
BVS 900	Special Topics	0
BVS 911	Vegetative Physiology of the Eye	3.00
BVS 912	Visual Physiology of the Eye	3.00
BVS 913	Current Topics Tear Film & Dry Eye	3.00
BVS 914	Vegetative Physiology of the Cornea	3.00
BVS 921	Color Vision	3.00
BVS 924	Neurophysiology of Amblyopia	3.00
BVS 932	Ocular Pathology	3.00
BVS 957	Accommodation	3.00
BVS 959	Vision and Reading	3.00