



## *Vision Statement*

Our vision is to be a progressive leader in optometric education and to improve the way health care is delivered world-wide.

## *Mission Statement*

The mission of Western University of Health Sciences College of Optometry is to graduate caring, comprehensive health care professionals who will serve the needs of a diverse global society. The College emphasizes rehabilitation of the visual system, neuro-optometry, and interprofessional education. We advance the profession of optometry through innovation in health care education, research, and patient care.

## *Core Values*

We value a rich humanistic tradition and are committed to professional collaboration, community involvement, accountability, integrity, and respect.



# TABLE OF CONTENTS

<b>Admissions</b>	
The Interview Process .....	5
Admissions Committee Decisions .....	5
Accept Status/Required Documents .....	6
Alternate Status .....	6
Hold Status.....	7
If You Are Not Offered Acceptance .....	7
International Students .....	7
Western University of Health Sciences Catalog .....	7
<b>Curriculum</b>	
Summer Preparedness and Readiness Course (SPaRC).....	8
College of Optometry Curriculum Overview.....	9
Licensing Exam Performance & Support .....	12
Interprofessional Education (IPE) .....	13
Facilities and Technology Support .....	14
The J and K Virtual Reality Learning Center.....	14
Personal Competencies for Admission & Matriculation .....	16
<b>Financial Aid</b>	
Overview of WesternU Financial Aid Process .....	19
Annual Awards & Scholarships.....	22
<b>Student Support Services</b>	
Why WesternU? .....	24
Learning Enhancement & Academic Development (LEAD) .....	25
Tutorial Assistance program (TAP) .....	25
Academic Counseling .....	25
Harris Family Center for Disability and Health Policy (CDHP) .....	25
Fitness .....	25
Counseling .....	26
Identification Badges .....	26
Health Insurance .....	26
Student Parking .....	27
Housing .....	27
Metrolink .....	27
Student Government Association, Community Service & Clubs .....	27
Optometry-Specific Student Clubs & Organizations.....	29
LEAD Services .....	30
<b>Administrative Contacts</b> .....	31
<b>WesternU View Articles</b> .....	32
<b>Note Page</b> .....	41



## INTERVIEW PROCESS

Interviews at Western University of Health Sciences are meant to be an exchange of information in a warm and welcoming environment. It is an experience that should be both positive and enjoyable for you. Our interviews are never meant to be threatening nor confrontational in any way. You have been selected by the admissions committee because you exemplify those qualities that we feel are important in the health care professionals whom we educate.

We understand that you are also making choices regarding the professional school that you will attend. Our goal is to inform you of the educational programs provided to assist you, the state of the art facilities that are available to the students, and demonstrate that we are “living our values” so that we are here for our students and for each other. This is what makes Western University of Health Sciences a special place to learn.

### Interviews

- We anticipate interviewing approximately 250-300 candidates to fill a class of approx. 86 students
- The average interview is approximately 25-30 minutes in duration
- You will be asked a series of general and behavioral-based questions. Behavioral-based questions require you to draw from personal experience to formulate your answers.
- The interview panel may be comprised of the following: Admissions Committee member, faculty member, other WesternU employee or a local Optometrist

### Orientation

The interview day has been organized to allow you to obtain information on our programs and support services; therefore, we encourage you to **ASK QUESTIONS!**

### Tour of the Campus

A tour of our campus will take place on the day of your interview.

### Admissions Committee Decisions

- Following the interview, you will be placed in one of four categories: Accept, Alternate, Hold or Not Accepted to our program
- You will be notified by email and/or postal mail of the committee’s decision – typically within one to two weeks after your interview. **Notification letters for all categories are sent on a rolling basis.**
- Official transcripts and health clearance documents are required of all accepted students
- If you are selected as an alternate, you may be offered a seat in the class as late as the first week of school (August)

### Questions

If you have questions regarding your application, please contact your Admissions Counselor by phone or email.

### Evaluation Form

After your interview, you will receive an email with a link to an interview day evaluation form. We ask that you take a few minutes to complete the survey as your comments are important to us and will be considered when planning next year’s interview day activities. The information that you report will remain confidential and will not be used in determining admission.

## ACCEPT STATUS

The non-refundable acceptance deposit for applicants accepted to WesternU's College of Optometry is \$500.00, payable within two weeks after notification of acceptance.

### Prerequisite Coursework

- ALL prerequisite course work in progress must be completed by the end of the spring semester or quarter just prior to matriculation.
- Summer courses just prior to matriculation will **not** be accepted.
- All prerequisite courses must be completed with a grade of "C" or better (a grade of "C-" or below is not acceptable). It is your responsibility to notify us right away if you receive a grade of "C-" or below.
- If your plans change, and you are unable to enroll in a course you listed as planned, you must notify us of the replacement course(s) so we can confirm that the new course(s) will meet our requirement. If you do not provide us with the new course information, you risk enrolling in a course that does not meet our requirements which could ultimately affect your admission to our program.

If you have prerequisite course work in progress and are accepted to the Optometry program, your acceptance will be contingent upon successful completion of ALL prerequisite courses.

### Health Clearance Documents

A complete history and physical examination is required prior to registration (must be within six months of matriculation). Your physician must indicate if you are current with your vaccination for tetanus/diphtheria/pertussis (Tdap) and that you have received tuberculosis clearance (must be valid throughout the entire academic year). You must also provide proof of immunity, through serum blood titers, to the following communicable diseases: measles, mumps, rubella, varicella, and Hepatitis B. Upon acceptance, you will be provided with a link to the most current requirements/forms.

### Criminal Background Check

All accepted students will be required to complete a criminal background check prior to matriculation. Details will be emailed to you in the late spring.

**All required documentation must be received by the deadline indicated below. Failure to complete the admissions requirements by the deadline may result in the delay of your financial aid/registration and/or rescindment of your acceptance.**

<b>Acceptance Deposit and Declaration Form</b>	2 weeks after acceptance
<b>Health Clearance Documents</b>	June 1, 2020
<b>All Official Transcripts</b>	June 1, 2020
<b>Any Additional Requested Documentation</b>	June 1, 2020
<b>Non U.S. Residents/Proof of Legal U.S. Residency (i.e., visa, green card)</b>	Prior to your interview

Please contact the Office of Admissions if you have any questions.

## ALTERNATE STATUS

If you are selected as an alternate, you may be offered a seat from the time the alternate letter is received until classes begin in August. You must accept alternate status via your application status page within 15 days of notification in order to remain in consideration. If you should accept a seat elsewhere, please notify us via email so that we can remove your name from the alternate list. Be advised that second interviews are not granted.

The alternate status will remain unchanged until notified in writing from the Admissions Office. Applicants placed as alternates may or may not be offered a seat for the upcoming entering class.

If you are unsuccessful in gaining admission, you will be notified via email by the first week of September.

## **HOLD STATUS**

A hold status means that the Admissions Committee is not yet ready to make a decision on your application for reasons that may include but are not limited to the need for further clarification, request that you re-take the OAT or submit additional grades.

## **IF YOU ARE NOT ACCEPTED**

If you are not offered an acceptance you will have an opportunity to schedule a phone counseling appointment to discuss general reasons for denial and suggestions on how to improve your application for the next application cycle should you choose to re-apply.

Remember to check our website for new application deadline dates and any changes in program prerequisites.

## **INTERNATIONAL STUDENTS**

International students and any other applicants, who are not US citizens and are living in the U.S., should be prepared to provide proof of legal US residency at the time of interview. Proof of legal US residency is required prior to any offer of acceptance.

For more information please visit our web site at:

<http://www.westernu.edu/international-welcome> or contact the Marie Anderson at (909) 469-5485 or [manderson@westernu.edu](mailto:manderson@westernu.edu).

## **WESTERN UNIVERSITY OF HEALTH SCIENCES CATALOG**

You may access the University Catalog via our web site. It is presented as a PDF file so you will need to download Acrobat Reader to access the catalog. The web address is <https://www.westernu.edu/registrar/registrar-about/university-catalog>.

To ease download times for viewing, we have broken up the catalog into major sections – mostly by academic program. There is a general university section (Overview) at the start and a listing of the Board of Trustees, Administration, and Faculty at the end. Also, with the advent of an online catalog, the information contained in the Student Handbook has been incorporated into the catalog. University Academic Policies and Procedures are contained as a section within each program component.

## Summer Preparedness and Readiness Course (SPaRC)

### About SPaRC

The Summer Preparedness and Readiness Course (SPaRC) is a five-week student-centered and student-driven program. SPaRC is designed to prepare incoming students for the rigors of their chosen program by introducing course work, skills, and competencies in an inter-professional education healthcare setting.

SPaRC introduces students to the “WesternU way” to ease their transition from undergraduate to professional school. SPaRC provides students with the opportunity to evaluate the strengths and weaknesses of their academic, as well as their inter- and intra-personal skills.

Upon completing SPaRC, participants have met their deans and faculty, know how to access crucial resources on campus, have experienced and dealt with information overload, and best of all they have already connected with fellow students in and outside their programs.

### 2020 Course Dates

To be announced later

### Course Contents:

#### Intensive science and anatomy prep

- Skeletal system
- Gross anatomy
- Head and neck anatomy

#### In-depth introductions to WesternU-specific courses

- IPE (Inter-professional education)
- Healthcare fundamentals
- Community focused service learning

#### Seminars on professional school skills

- Study skills
- Virtual Anatomy Lab training
- Life and EQ skills training
- Test taking
- Stress management

### How to Apply

For incoming WesternU students, find out how to sign up at:

<http://www.westernu.edu/lead/lead-summer-prep/>

### Student Comments:

*“This program was such a confidence booster. I have changed so much as a person after going through this class and am so confident and ready to take on my rigorous program.” – DPM*

*“I loved the optometry breakout sessions! I really appreciated getting to meet some of the faculty and get a taste of what to expect. I loved the support and encouragement from LEAD and TAs! It has been an incredible value to me in building a strong foundation.” – OD*



## OPTOMETRY CURRICULUM

### Year 1

Year 1, Fall Semester		
Course	Title	Credit Hours
IPE 5000	Patient Centered Cases I	1.00
OPTM 5001	Introduction to Optometry	1.50
OPTM 5020	Principles/Practice of Optometry I: Primary Care Exam/Technique	4.00
OPTM 5041	Anatomy for the Optometrist	4.00
OPTM 5042	Vision Science 1: Cellular and Molecular Neuroscience of Vision	4.00
OPTM 5050	Optical Science: Geometric and Mechanical Optics	3.50
OPTM 7001	Patient Care Services I	0.50
<b>Semester Total:</b>		<b>18.50</b>
Year 1, Spring Semester		
Course	Title	Credit Hours
IPE 5100	Patient Centered Cases II	1.00
OPTM 5120	Principles and Practice of Optometry II: Primary Care Exam/Strategy	5.00
OPTM 5130	Ocular Physiology	3.00
OPTM 5133	Systemic Pharmacology	2.00
OPTM 5151	Optical Science II: Physical and Visual Optics	4.00
OPTM 5175	Clinical Medicine for the Optometrist	3.00
OPTM 7002	Patient Care Services II	1.00
<b>Semester Total:</b>		<b>19.00</b>
Year 1, Summer Semester		
Course	Title	Credit Hours
OPTM 5242	Vision Science II: Monocular Sensory Vision	3.00
OPTM 5250	Integrative Clinical Analysis I	1.50
OPTM ELCX	Elective Coursework	0.00 – 2.00
<b>Semester Total</b>		<b>4.50 – 6.50</b>
<b>First Year Total:</b>		<b>42.00 – 44.00</b>

### Year 2

Year 2, Fall Semester		
Course	Title	Credit Hours
IPE 6000	Team Training in Health Care I	1.00
OPTM 6020	Principles/Practice Optometry III: Tissue Eval. Anterior Segment	4.00
OPTM 6032	Systemic Pharmacology	2.00
OPTM 6041	Vision Science II: Monocular Sensory Aspects of Vision	4.50
OPTM 6042	Vision Science III: Development of Vision	3.00
OPTM 6053	Optical Science: Physical Optics	3.00
OPTM 6073	Ocular Disease: Diagnosis and Treatment of Posterior Segment	2.50
OPTM 7003	Patient Care Services III	1.00
<b>Semester Total:</b>		<b>21.00</b>

<b>Year 2, Spring Semester</b>		
<b>Course</b>	<b>Title</b>	<b>Credit Hours</b>
IPE 6100	Team Training in Health Care II	1.00
OPTM 6111	Contact Lenses I: Theory and Practice	3.50
OPTM 6120	Principles/Practice of Optometry: Tissue Eval Posterior Segment	4.00
OPTM 6151	Optical Science: Physiological Optics	2.50
OPTM 6161	Vision Rehabilitation: Low Vision	3.00
OPTM 6172	Special Considerations in Pediatrics	2.00
OPTM 6175	Ocular Disease: Diagnosis and Treatment of Posterior Segment	4.00
OPTM 6182	Neuro-Optometric Rehabilitation I: Non-strabismic Anomalies	4.00
OPTM 7004	Patient Care Services IV	1.00
<b>Semester Total:</b>		<b>25.00</b>
<b>Year 2, Summer Semester</b>		
<b>Course</b>	<b>Title</b>	<b>Credit Hours</b>
OPTM 6250	Integrative Clinical Analysis II	1.50
OPTM 6260	Optometry Review Course I	1.00
OPTM 7005	Patient Care Services V	3.00
<b>Semester Total:</b>		<b>5.50</b>
<b>Second Year Total:</b>		<b>51.50</b>

### Year Three

<b>Year 3, Fall Semester</b>		
<b>Course</b>	<b>Title</b>	<b>Credit Hours</b>
OPTM 7006	Patient Care Services VI	5.00
OPTM 8011	Contact Lenses II: Theory and Practice	3.50
OPTM 8021	Principles and Practice of Optometry V: Special Procedures	2.00
OPTM 8033	Ocular Disease: The Eye in Systemic Disease	2.00
OPTM 8081	Neuro-Optometric Rehabilitation II: Strabismus and Amblyopia	3.00
OPTM 8082	Neuro-Optometric Rehab III: The Neurologically Challenged Patient	2.00
<b>Semester Total:</b>		<b>17.50</b>
<b>Year 3, Spring Semester</b>		
<b>Course</b>	<b>Title</b>	<b>Credit Hours</b>
OPTM 7007	Patient Care Services VII	5.00
OPTM 8110	Advanced Vision Rehabilitation & Geriatrics	2.50
OPTM 8120	Principles and Practice of Optometry VI: Surgical Eye Care	2.00
OPTM 8150	Integrative Clinical Analysis III	2.00
OPTM 8170	Grand Rounds	2.50
OPTM 8161	Optometry Review Course	3.00
OPTM 8162	Elective I	1.00
<b>Semester Total:</b>		<b>18.00</b>
<b>Third Year Total:</b>		<b>35.50</b>

## Year Four

Year 4, Fall Semester		
Course	Title	Credit Hours
OPTM 7009	Patient Care Services IX	11.00
OPTM 7010	Patient Care Services X	11.00
Semester Total:		22.00
Year 4, Spring Semester		
Course	Title	Credit Hours
OPTM 7011	Patient Care Services XI	11.00
OPTM 7012	Patient Care Services XII	11.00
OPTM 8261	Practice Management II: How to Make a Living as an Optometrist	1.00
Semester Total:		00
Fourth Year Total:		45.00



*WesternU College of Optometry Faculty Welcoming the Incoming Class of 2019*

## LICENSING EXAM PERFORMANCE & SUPPORT

We are pleased to provide the below results from March 2019. This chart reflects the Applied Basic Science (ABS) Part I for each of the 3 forms administered (first-time takers only).

	WesternU	National
Form A	86.96% pass rate	78.77% pass rate
Form B	80.95% pass rate	79.30% pass rate
Form C	100% pass rate	79.35% pass rate

The college values a student's success and as such is continually improving our services. Based on our student feedback the College has implemented, and further enhanced our student support services as follows:

### Part I Support

- On-campus KMK review sessions, access to books, and on-line materials, with partial financial support funded by the College
- Faculty-run review sessions integrated within the curriculum
- Optometry Review Course integrated within the curriculum
- Adjusted workload and curriculum sequence to support study time
- Personalized risk assessments to identify level of risk and targeted areas for improvement
- Personalized and targeted individualized support
- Optoprep rebate program

### Part II Support

- Series of coaching e-mails provided to guide the study process
- Links to online resources to support preparation

### Part III Support

- Links to online resources to support preparation
- Preparation of videos to support clinical skills via Blackboard
- Open access to pre-clinical lab facilities to practice skills
- Open access to materials and supplies for specific skill development such as injections, punctal plugs, contact lenses
- Mock Part III exam with faculty members
- Newly equipped dedicated space added into the Ocular Anatomy Lab teaching space
- Designated faculty member to serve as the point-person for communications and support

There are no barriers to a student's success. Our curriculum provides students with the material needed to pass boards. It is a student's hard work, preparation, study habits, work ethic, and utilization of all resources that contributes to their overall success on national board exams.

# INTERPROFESSIONAL EDUCATION

## What is Interprofessional Education at WesternU?

What if, instead of one healthcare professional focusing on your medical needs, a team of multiple healthcare professionals worked together to give you the best possible diagnosis and treatment? WesternU's interprofessional education (IPE) program includes students from all nine healthcare programs at WesternU; osteopathic medicine, physician assistant, physical therapy, graduate nursing, pharmacy, veterinary medicine, dental medicine, podiatric medicine and optometry. Collaboration and teamwork among healthcare professionals are important aspects to the delivery of high-quality patient care. A landmark report by the Institute of Medicine suggests healthcare workforce preparation should include IPE.

*"Interprofessional education occurs when students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes. Interprofessional education is a necessary step in preparing a 'collaborative practice-ready' health workforce that is better prepared to respond to local health needs."*

*Source: World Health Organization (2010): Framework for Action on Interprofessional Education & Collaborative Practice*

WesternU's IPE curriculum places students from many college disciplines together in the classroom, in small group venues, and in clinical experiences with patients. The goal is for WesternU graduates to demonstrate an understanding of other healthcare professions and to provide and promote a team approach to patient care and healthcare management, ultimately leading to improved patient care.

This unity of professions directly reflects the "one health, one medicine, one vision" idea, employing a curriculum designed to do no less than revolutionize medical education in this country: breaking down the silos that characterize so many healthcare professions campuses today. Improved service to patients and enhanced student training were primary reasons for establishing WesternU's IPE curriculum.

As national healthcare organizations and employers emphasize the importance of a team-based approach to healthcare, training as part of an interprofessional team becomes essential to healthcare professions graduates. As ambassadors for WesternU's broad interprofessional approach to health-sciences education, our graduates will simultaneously cement WesternU's reputation as a leader in graduate health-sciences education and raise the bar for patient care throughout the United States.

WesternU is a major institution to develop a comprehensive program helping students from many health professions learn how to work as a cohesive health care team. Why are we doing this? Because:

- As national healthcare organizations and employers emphasize the importance of a team-based approach to healthcare, it is likely that training as part of an interprofessional health care team will enhance graduates' resumes and increase their employment opportunities.
- The growing number of elderly with chronic conditions makes coordinated care even more essential and valued.
- The emergence of infectious, zoonotic diseases impacts all healthcare professions.
- Patients will receive timely care from the most appropriate healthcare providers—minimizing cost and maximizing patients' potential for improvement and recovery—thanks to the collaborative care that can be created as the result of interprofessional education.

Our future graduates will have a distinctive collaborative training and outlook which will ultimately benefit patients. Learn more at: [www.westernu.edu/interprofessional/home-page/](http://www.westernu.edu/interprofessional/home-page/).

## **FACILITIES AND TECHNOLOGY**

The main campus currently includes 21 major buildings totaling an investment of more than \$100 million. The design of the Health Education Center and Patient Care Center fosters interprofessional education and patient care. In addition, a new seven-story, 600-space parking structure was built to serve the new buildings.

### **Health Education Center (HEC)**

- four-story, 180,000 square feet
- wireless equipped
- six auditoriums
- research labs and faculty offices
- more than 50 small-group meeting rooms
- pre-clinical space that mirrors clinical space
- dental simulation clinic for dental students

### **Patient Care Center (PCC)**

Students will gain an understanding and appreciation for other health professionals and promote a team approach to patient care and health care management as part of the university's unique new inter-professional curriculum. The Patient Care Center will be customized for educational programs as well as optimal patient care.

- three-story, 68,500 square feet
- state-of-the-art Eye Care Institute with 20 eye examination lanes containing the latest and best equipment and technology available in the 21<sup>st</sup> Century
- state-of-the-art oral health clinic with 68 operatories designed to support the latest in clinical technology
- Advanced Limb Preservation Center with on-site cutting-edge clinical diagnostic technology, would care modalities and reconstructive limb-sparing surgery consultation
- Adaptive equipment for the treatment of people with disabilities

### **The J and K Virtual Reality Learning Center**

The J and K Virtual Reality Learning Center at Western University of Health Sciences merges an innovative curriculum model with cutting-edge technology to deliver a deeply engaging learning experience that will broaden understanding of human anatomy, improve retention and test scores, and ultimately lead to enhanced patient care. The Virtual Reality Learning Center (VRLC) will help students learn anatomical functions and systems in a virtual environment. The VRLC's centerpiece is the Anatomage Virtual Dissection Table, developed at Stanford University, which – as its name suggests – brings anatomical images to life, allowing students to dissect the body and move through layers of tissue to see the structures inside. With the touch of a finger, students can expand the size of a body section to study its details and turn that body part – or even the whole body – 360 degrees, to study it from all angles.

### **Technology Support**

NetOps and User Support, a division of the IT Department, is responsible for maintaining the information technology infrastructure for Western University. This includes the campus network and telephone system, as well as the individual Computing Toolbox used by university personnel.

The Network Operations staff sees to it that the servers delivering both Internet and Intranet based programs run smoothly and meet the growing needs of the university community. They also see to it that data created and exchanged over the network is secured and properly backed up daily.

In addition to providing just-in-time technical support for students, faculty, and staff, User Support personnel provide the necessary maintenance and upgrades on campus workstations and student laptop computers. They also participate as needed in new student orientation and training efforts.

These services are all accessible through the Technical Support desk, which can be reached by calling (909) 469-5432 (extension 5432 if on campus). They can also be reached by email at [techsupport@westernu.edu](mailto:techsupport@westernu.edu). Additional information may also be found at <http://www.westernu.edu/computing-students>.



# College of Optometry

## Personal Competencies for Admission and Matriculation

A candidate for admission to the Doctor of Optometry program must possess, or be able to achieve through a reasonable accommodation, certain technical, sensory, and motor function, that would enable the individual to carry out the activities described in the sections that follow. Upon matriculation to the program, the student must continue to possess, or be able to achieve through a reasonable accommodation, the personal competencies outlined below throughout their progression in the Doctor of Optometry program.

To provide guidance to those considering optometry as a profession, the Association of Schools and Colleges of Optometry (ASCO) has established functional guidelines for optometric education. The ability to meet these guidelines, along with other criteria established by Western University of Health Sciences, College of Optometry, is necessary for graduation from an optometric professional degree program.

One of the missions of Western University of Health Sciences, College of Optometry is to produce graduates fully qualified to provide quality comprehensive eye care services to the public. To fulfill this mission, of Western University of Health Sciences, College of Optometry must ensure that students demonstrate satisfactory knowledge and skill in the provision of optometric care.

The functional guidelines in optometric education require that the candidate/student possess appropriate abilities in the following areas which include, but are not limited to: 1) observation; 2) communication; 3) sensory and motor coordination; 4) intellectual –conceptual, integrative and quantitative abilities; and 5) behavioral and social attributes.

For candidates or students who require a reasonable accommodation to meet the competencies outlined below, please contact the Harris Family Center for Disability and Health Policy/Accommodation and Resource Center (CDHP/AARC) at (909) 469-5297.

Under all circumstances, a candidate or student should be able to perform the following in a reasonably independent manner, with or without a reasonable accommodation:

### Observation

The student must be able to acquire a defined level of required knowledge as presented through lectures, laboratories, demonstrations, patient interaction, and self-study. Acquiring this body of information necessitates the functional use of visual, auditory, and somatic sensation enhanced by the functional use of other sensory modalities. Examples of these observational skills in which accurate information needs to be extracted in an efficient manner include:

- Visual Abilities (as they relate to such things as visual acuity, color vision and binocularity):
  - Visualizing and reading information from papers, films, slides, video and computer displays
  - Observing optical, anatomic, physiologic and pharmacologic demonstrations and experiments
  - Discriminating microscopic images of tissue and microorganisms
  - Observing a patient and noting non-verbal signs



- Discriminating numbers, images and patterns associated with diagnostic tests and instruments
- Visualizing specific ocular tissues in order to discern three-dimensional relationships, depth and color changes
- Auditory Abilities:
  - Understanding verbal presentations in lecture, laboratory and patient settings
  - Recognizing and interpreting various sounds associated with laboratory experiments as well as diagnostic and therapeutic procedures
- Tactile Abilities:
  - Palpating the eye and related areas to determine the integrity of the underlying structures
  - Palpating and feeling certain cardiovascular pulses

### **Communication**

The student must be able to communicate effectively, efficiently and sensitively with patients and their families, peers, staff, instructors, and other members of the health care team. The student must be able to demonstrate established communication skills. Examples of required communications skills include:

- Relating effectively and sensitively to patients, conveying compassion and empathy
- Perceiving verbal and non-verbal communication such as sadness, worry, agitation and lack of comprehension from patients
- Eliciting information from patients and observing changes in mood and activity
- Communicating quickly, effectively and efficiently in oral and written English with patients and other members of the health care team
- Reading and legibly recording observations, test results and management plans accurately
- Completing assignments, patient records and correspondence accurately and in a timely manner

### **Sensory and Motor Coordination**

Students must possess the sensory and motor skills necessary to perform an eye examination, including emergency care. In general, this requires sufficient exteroception sense (touch, pain, temperature), proprioceptive sense (position, pressure, movement, stereognosis and vibratory) and fine motor function (significant coordination and manual dexterity using arms, wrists, hands and fingers)

Examples of skill required include but are not limited to:

- Instillation of ocular pharmaceutical agents
- Insertion, removal and manipulation of contact lenses

- Assessment of blood pressure and pulse
- Removal of foreign objects from the cornea
- Simultaneous manipulation of lenses, instruments and therapeutic agents and devices
- Reasonable facility of movement
- Injections into the eye, lids or limbs

### **Intellectual-Conceptual, Integrative, and Quantitative**

Problem solving, a most critical skill, is essential for optometric students and must be performed quickly, especially in emergency situations. In order to be an effective problem solver, the student must be able to accurately and efficiently utilize such abilities as measurement, calculation, reasoning, analysis, judgment, investigation, memory, numerical recognition, and synthesis. Examples of these abilities include being able to:

- Determine appropriate questions to be asked and clinical tests to be performed
- Identify and analyze significant findings from history, examination and other test data
- Demonstrate good judgment and provide a reasonable assessment, diagnosis and management of patients
- Retain, recall and obtain information in an efficient manner
- Identify and communicate the limits of one's knowledge and skill

### **Behavioral and Social**

The student must possess the necessary behavioral and social attributes for the study and practice of optometry. Examples of such attributes include:

- Satisfactory emotional health required for full utilization of one's intellectual ability
- High ethical standards and integrity
- An empathy with patients and concern for their welfare
- Commitment to the optometric profession and its standards
- Effective interpersonal relationships with patients, peers and instructors
- Professional demeanor
- Effective functioning under varying degrees of stress and workload
- Adaptability to changing environments and uncertainties
- Positive acceptance of suggestions and constructive criticism

## OVERVIEW OF WESTERNU FINANCIAL AID PROCESS

**Welcome!** The information below is to provide you with a quick overview on how financial aid is processed at our office. Please visit our website at [www.westernu.edu/financial](http://www.westernu.edu/financial), which has a lot of useful information.

If you have any questions or feedback, please contact our office at (909) 469-5353 or via email at [finaid@westernu.edu](mailto:finaid@westernu.edu). We look forward to assisting you!

### Applying for Aid –

#### THE PROCESS

##### **Step 1: Complete the Free Application for Federal Student Aid (FAFSA)**

- The Free Application for Federal Student Aid (FAFSA) is open for submission annually each October 1st.
- Create a Federal Student Aid (FSA) ID
- This FSA ID is used to sign your Free Application for Federal Student Aid (FAFSA) online. If you have an existing FSA ID, you are not required to create another one.
- Complete the Free Application for Federal Student Aid (FAFSA) - <https://fafsa.ed.gov/>
- Western University of Health Sciences (WesternU) school code is 024827
- When completing the FAFSA application, transfer your federal tax information from two years ago (Prior-Prior Year).

##### **Step 2: Review Student Budget/Cost of Attendance**

- Student Budgets/Cost of Attendance are subject to change and costs vary each year.
- See page 3 for details

##### **Step 3: Requirements**

- Once admitted to the University, an email from our office will be sent to your WesternU email account. This email will instruct you to login to your Student Portal to complete the listed requirements prior to disbursement of loan funds. Once requirements are completed, your financial aid offer will be emailed to your WesternU email account.

##### **Step 4: Financial Aid Offer**

##### **Packaging and Award Policy**

- Students at WesternU are packaged and awarded as independent graduate students. There are no Grants available to graduate students. Resources such as gift aid, scholarships, Military and the National Health Service Corps will be taken into consideration first when packaging and awarding students.
- All eligible students are then awarded in the unsubsidized loan and the balance in the Grad PLUS loan to meet the maximum of their budget. Students are awarded the maximum allowable in the Federal Direct Loan program's as per their program and the Department of Education.
- Outside scholarships are available! Please visit <https://www.westernu.edu/financial/financial-scholarships/> for more details.

## Loans

- Graduate professional students are eligible to borrow federal loans up to the cost of attendance minus other financial aid from the [Department of Education \(ED\)](#) and/or non-Department of Education lenders referred to as an Alternative loan.
- **ED Loans and Interest Rates for 2019/20 Academic Year**
- Federal Direct Unsubsidized Loan
- 6.079% (T-bill + 3.60%)
- Federal Graduate PLUS Loan
- 7.079% (T-bill + 4.60%)
- Federal Graduate PLUS Loan Requires a credit check. If loan is declined, student will need an Endorser.
- Please remember that the interest rates for each academic year may vary based on what the 10-Year T-Bill will be by the end of May of each year. **In addition, there is an origination fee, which is assessed at the time of disbursement. For additional information visit our website at <https://www.westernu.edu/financial/direct-loan-program-counseling/>.**
- Repayment begins 6 months after the student graduates or drops below half time enrollment. Limited deferments and forbearances are available to students upon graduation based on economic hardship.

## Alternative Loan

- Eligible students are International, DACA, and those eligible to borrow ED loans.
- International students must secure a U.S. Citizen co-signer to obtain funding.
- Requires a credit check and is based on credit worthiness. Unlike ED's Loan program, approval is not guaranteed. The lending institutions determine interest rates of which there is no cap. Some lenders may charge an origination fee. Alternative loans may not have deferment/forbearance as an option.

## Step 5: Disbursements Schedule

- Disbursement schedules are based on the student's program enrollment terms (fall and spring or fall, spring, and summer terms).
- The financial aid amount you've accepted will be disbursed to your Student Account. Loan funds will first be used to pay for tuition and fees and then the remainder of it will be deposited to your checking account.
- To view your disbursement schedule, please Login to your Student Portal.

## Step 6: Meet with a Financial Aid Counselor

- Students who are borrowing ED loans for the first time at Western University of Health Sciences will receive an email with instructions to schedule their 30-45-minute mandatory New Student Information (NSI) Financial Aid group meeting.

**Live Financial Aid webinars designed specifically for interviewees:**  
***[apply.westernu.edu/portal/finaid-interview](https://apply.westernu.edu/portal/finaid-interview)***

**Financial Aid Student Budgets are Subject to Change**

- Information is updated annually at the end of March.
- Please visit <https://www.westernu.edu/financial/financial-budgets/> for details.

<b>2019/2020 Doctor of Optometry Program</b>	<b>First Year 12 Months</b>	<b>Second Year 12 Months</b>	<b>Third Year 10 Months</b>	<b>Fourth Year 12 Months</b>
<b>Tuition &amp; Fees</b>				
Tuition	\$40,850.00	\$40,850.00	\$40,850.00	\$40,850.00
Student Body Fees	\$40.00	\$40.00	\$40.00	\$40.00
Graduation Fees	N/A	N/A	N/A	\$350.00
<b>Total Fees</b>	<b>\$40,890.00</b>	<b>\$40,890.00</b>	<b>\$40,890.00</b>	<b>\$41,240.00</b>
<b>Budget Items/Estimated Costs</b>				
Books & Supplies	\$5,335.00	\$8,408.00	\$510.00	\$169.00
Living Expenses (R&B/Personal)	\$21,864.00	\$21,864.00	\$18,220.00	\$21,864.00
Transportation	\$3,625.00	\$3,625.00	\$4,640.00	\$8,526.00
Boards	N/A	N/A	\$850.00	\$850.00
Background Check & Finger Printing	\$65.00	N/A	N/A	N/A
AOSA Fees	\$55.00	\$55.00	\$55.00	\$55.00
<b>Total Budget Components</b>	<b>\$30,944.00</b>	<b>\$33,952.00</b>	<b>\$24,275.00</b>	<b>\$31,464.00</b>
<b>Loan Fees</b>				
Direct Unsubsidized Loan Fees	\$501.00	\$501.00	\$454.00	\$501.00
Grad PLUS Loan Fees	\$1,069.00	\$1,197.00	\$973.00	\$1,106.00
<b>Total Loan Fees</b>	<b>\$1,570.00</b>	<b>\$1,698.00</b>	<b>\$1,427.00</b>	<b>\$1,607.00</b>
<b>Total Budget</b>	<b>\$73,404.00</b>	<b>\$76,540.00</b>	<b>\$66,592.00</b>	<b>\$74,311.00</b>

## ANNUAL AWARDS & SCHOLARSHIPS

### Academic Year 2019-2020

Students at WesternU are eligible for a variety of scholarship awards in each of the four years of the program. Some scholarships require an application process while others are awarded based on faculty nominations. Here is a sample of scholarships that were awarded in the past academic year. The number and type of awards will vary from year to year.

Scholarship Name	Student Eligibility
A Tribute to Caring Scholarship	Applicant
Founding Dean Scholarship	Applicant
Hays-Haine Family Endowed Scholarship	Applicant
Richmond Products Endowed Scholarship	Applicant
Visionary Leaders in Optometry Scholarship	Applicant
Beller Family Scholarship	First, Second, Third, and Fourth year
Core Value Awards	First, Second, and Third year
Crans Family Scholarship (WesternU)	First, Second, and Third year
Dean's Award	First, Second, and Third year
East West Scholarship (WesternU)	First, Second, Third, and Fourth year
Krasnow Family Scholarship	First, Second, and Third year
Modern Optical Award	First, Second, and Third year
The Arthur Madorsky Memorial Scholarship (WesternU)	First, Second, Third, and Fourth year
Varilux Student Grant	First, Second, Third, and Fourth year
WesternU Alumni Association Scholarship	Second, Third, and Fourth year
AOF/J. Pat Cummings Scholarship	Second and Third year
Towne & Gown Scholarship (WesternU)	Second, Third, Fourth year
Dr. Helena Tzou Annual Scholarship	Second year
Bernard Maitenaz Scholarship	Third year
COA George I. Dean Memorial Leadership Award	Third year
Dr. Kim-Anh Nguyen Scholarship	Third or Fourth year
Dr. Seymour Galina Scholarship	Third year
Essilor's Private Practice Student Travel Fellowship to AAO	Third and Fourth year
Good-Lite Outstanding Student Clinician in Pediatrics Award	Third Year
GWCO Scholarship	Third year
Hoya Vision Care Clinical Excellence Award	Third year
Dr. Thai Nguyen Annual Scholarship	Third year

Scholarship Name	Student Eligibility
AAOS Scholarship	Fourth year
Alumni Memorial Award (WU)	Fourth year
AOF/J&J Award of Excellence in CL Patient Care	Fourth year
Asian American Optometric Society Scholarship	Fourth year
Core Value Award	Fourth year
COVD Award for Excellence in Vision Therapy	Fourth year
Designs for Vision William Feinbloom Low Vision Award	Fourth year
Dr. Harout Khanjian Scholarship	Fourth year
Dr. Jason Drobeck Scholarship	Fourth year
Dr. John Sang Hak Lee Memorial Award	Fourth year
Dr. Pat and Patrick Cummindgs Scholarship	Fourth year
Drs. Gordon & Silvers Scholarship	Fourth year
Eschenbach Low Vision Student Award	Fourth year
HOYA Opportunity Scholarship	Fourth year
HumanWare Excellence in Low Vision Rehabilitation Award	Fourth year
IEOS Endowed Scholarship	Fourth year
Krasnow Family Public Health Scholarship	Fourth year
LACOS Scholarship	Fourth year
Leslie B. Williams Scholarship	Fourth year
Marchon Practice Management Award	Fourth year
OCOS Endowed Scholarship	Fourth year
OEP Clinical Curriculum Award	Fourth year
Optelec Excellence in Low Vision Award	Fourth year
Vision West Scholarship	Fourth year
VOLK Optical Award	Fourth year
VSP/AAOF Practice Excellence Scholarship	Fourth year
Walmart Scholarship Award	Fourth year
Gary Asano, O.D./Kaiser Permanente Low Vision Annual Scholarship	Fourth year

# Why WesternU?

---



“The instructors and administrators have made a significant impact in helping me feel confident as an optometry student. As time goes on my classmates feel more and more like family.”

**Joshua Clark Dalley, Class of 2019 | Brigham Young University - Idaho**

---

“My best clinical experience was in neuro-rehab optometric clinic. I realized the importance vision has on sensory, motor, cognitive, and behavioral processing which then impacts functional performances in TBI or stroke patients. Every day in clinic was an “aha” moment, every patient received individualized treatment to reach the highest level of functionality. Every day was a reminder that I chose optometry to help others improve their overall quality of life.”



**Cristina Acevedo, Class of 2019 | UC – Santa Barbara**

---



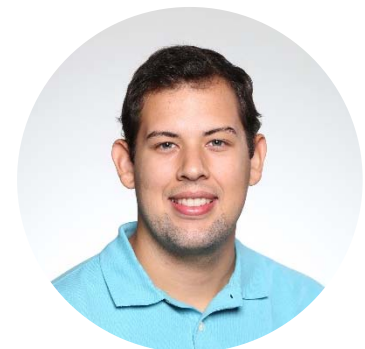
“I chose WesternU was because I felt that the staff and students resonated in me a drive to succeed as a Doctor of Optometry. It was important to me to discover the values of becoming a consummate health professional and WesternU has certainly provided me with that opportunity.”

**Herrick Duong, Class of 2020 | UC - Irvine**

---

“WesternU was a perfect fit for me and could be a perfect fit for you too. The faculty is very accommodating and they truly care for their students.”

**David Hernandez, Class of 2019 | Occidental College**





## UNIVERSITY STUDENT AFFAIRS – SUPPORT SERVICES ACADEMIC YEAR 2019-2020

### **Learning Enhancement and Academic Development (LEAD)**

<http://www.westernu.edu/lead/lead-about/>

The LEAD office is student-oriented. It serves as an important resource, partnership and support system for students. LEAD counselors are dedicated to assist students in developing their academic, professional and personal skills.

### **Tutorial Assistance Program (TAP)**

This program offers supplemental group academic instruction for students. Instruction is facilitated by trained competent peer tutors.

### **Academic Counseling**

In one-on-one academic counseling sessions, students can improve their competencies in a range of areas, including study strategies, test taking, focus and retention, time management, stress management, academic writing skills and more. Each session is designed to address the student's particular learning style,

### **Wellbeing Initiative**

The initiative consists of Wellbeing workshops with topics that focus on student wellness, Wellbeing activities around exams, weekly meditation sessions, as well as other activities focused on enriching the humanistic side of the student experience.

### **Harris Family Center for Disability and Health Policy (CDHP)**

<http://www.westernu.edu/cdhp/cdhp-about/>

If you have a disability and/or medical condition there are a number of support services available to you. Associate Director of Accommodations and Resource Center (AARC), Sandra Rainwater-Lawler is available to meet with you and discuss the intake process, required documentation and academic accommodations. To contact the center, you may call (909) 469-5441 or email [slawler@westernu.edu](mailto:slawler@westernu.edu)

AARC embraces the spirit of providing services to all students with permanent or temporary disabilities or medical conditions, ensuring that all University programs and activities are accessible. During your appointment, you will be advised about the required documentation. AARC understands educational needs and is flexible in its accommodations. Please keep in mind, there are no charges to you for services that are needed to support your educational program. We are here to help you succeed!

### **Fitness – Pomona, CA Campus**

<http://www.westernu.edu/students/students-services-fitness/>

We want you to stay mentally and physically fit while you are a student, so we offer a number of great opportunities for fitness memberships:

1. **LA Fitness** - WesternU pays \$100 and **you pay \$149-\$249 per year** depending on your option (Single Club/California Gyms Only/Multi-State, with or without racquetball) for enrollment.
2. **Reimbursement to any Non-LA Fitness Gym** – You may be eligible for a reimbursement UP TO \$100 for an annual/pre-paid membership or a month-to-month membership (excluding LA Fitness).

### **Fitness – Lebanon, OR Campus**

<http://www.westernu.edu/students-or/students-services-fitness-or/>

We want you to stay mentally and physically fit while you are a student, so we offer a number of great opportunities for fitness memberships:

1. **SamFit**- WesternU pays \$100 and **you pay \$225 per year** for enrollment at **SamFit**.
2. **Reimbursement to any non-SamFit Gym** – You may be eligible for a reimbursement UP TO \$100 for an annual/pre-paid membership or a month-to-month membership (excluding SamFit or LA Fitness).

### **Counseling**

<http://www.westernu.edu/students/students-services/students-services-counseling/>

We are pleased to provide all full-time students access to an Employee Assistance Program (EAP) for Students through OptumHealth. Under the EAP for Students, you and any member of your immediate household are eligible for up to five free counseling sessions for each “incident” or situation. Counseling includes but is not limited to: emotional well-being, financial planning, work and school issues. Counseling services may be accessed by telephone, via the web, or face-to-face. An on-campus counselor is also available 10 hours a week.

### **Identification Badges**

Student identification badges must be worn at all times while on campus, and entry into buildings may be denied without proper ID.

### **Health Insurance**

<http://www.westernu.edu/registrar/registrar-about/registration-information/student-health-insurance/>

As a full-time WesternU student, you must show that you have a current health insurance policy during registration EACH academic year. We encourage you to “shop around” for a health insurance plan that meets your specific needs. Many students are enrolled in plans offered by Blue Cross, Kaiser Permanente, HealthNet, PacifiCare, Aetna, US Healthcare, and United Healthcare. There are many companies that can give you the coverage you need for your specific health concerns. Coverage requirements for all students seeking to waive out of the school sponsored insurance plan are as follows:

- Active coverage for the entire school year
- Deductible of \$1,000 or less per policy year (\$2,000 or less for family)
- Plan provides coverage in the United States

Should you choose not to go with another health insurance plan or if you do not show proof of insurance by the deadline, you will automatically be enrolled in a **health plan** through Aetna. Please note that this plan DOES NOT COVER routine dental exams. Under this plan, students have access to a network of healthcare providers. Listed below are some of the additional main highlights of this insurance plan. For complete details visit our health insurance page at

<http://www.westernu.edu/registrar/registrar-about/registration-information/student-health-insurance/>

or call WesternU’s insurance broker, HSA Consulting by phone at (888) 978-8355 or by email at [westernu@hsac.com](mailto:westernu@hsac.com).

<b>Deductible</b>	\$250
<b>Co-Insurance</b>	80% – Preferred Provider Organization (PPO), 60% – Non-PPO
<b>Out of Pocket Maximum (Individual)</b>	\$6,350 (PPO), \$10,000 (Non-PPO)
<b>Out of Pocket Maximum (Family)</b>	\$12,700 (PPO), \$20,000 (Non-PPO)
<b>Office Visit</b>	\$20 Copayment, 80% (PPO), 60% (Non-PPO)
<b>Urgent Care Visit</b>	\$20 Copayment, 80% (PPO), 60% (Non-PPO)
<b>Emergency Room Visit</b>	\$200 Copayment (Waived if Admitted)
<b>Prescription Drugs</b>	\$15/\$25/\$45

For additional information on the benefits offered under the student health insurance plan, please visit the Health Sciences Assurance Consulting (HSAC) website at <https://app.hsac.com/westernu>  
**No dental** benefits are provided.

NOTE: There is a University owned medical center (WesternU Health/Pomona, <https://www.westernuhealth.com/Pomona/>) located on the WesternU Campus in Pomona, California and students are welcome to use this medical facility. There are no free services to students. Students may want to call in advance to verify that the wait time will be minimal. The Patient Care Center accepts many types of insurance including the insurance plan described above.

### **Student Parking**

<https://www.westernu.edu/mediafiles/facilities/facilities-student-parking.pdf>

**Annual parking permits are \$470, and semester parking permits are \$255** allowing you to park in designated WesternU parking places. These permits may be purchased during online registration. You may instead choose to park in City Public Metered Parking in Lot 12. When you purchase between the hours of 7:00 a.m. to 7:00 p.m. the fee for over 3 hours is \$3.00 per day. When you purchase after 7:00 p.m. the fee is \$1.00. The machine accepts coins, bills, Visa and MasterCard.

### **Housing**

<http://www.westernu.edu/students/students-housing-moving/>

The Daumier, owned and operated by Provident, is located directly across from the Health Education Center. Designed with the WesternU student in mind, these modern, luxury apartments offer you convenience and a long list of amenities. Additionally, the Office of University Student Affairs (USA) maintains a list of local apartment complexes at the link above, many of which are near campus, to aid in your search. USA also provides an online database of available rentals and a roommate referral service, and upon acceptance, you will be able to access both through BanWeb.

### **Metrolink**

[www.metrolinktrains.com](http://www.metrolinktrains.com)

If you are interested in using the Metrolink, which has a station just a few blocks from campus, be sure to secure housing east of campus. To access schedules and other information, please go online to [www.metrolinktrains.com](http://www.metrolinktrains.com). Rates are determined by distance traveled (originating station to destination station). The rail line which runs parallel to WesternU is the Riverside Line which goes from Downtown Riverside to the Downtown Pomona station. There is also the San Bernardino Line which goes from San Bernardino to the Pomona North station. These are the closest stations to WesternU.

### **Student Government Association, Community Service & Clubs**

<http://www.westernu.edu/students/students-government/>

<http://www.westernu.edu/students/students-clubs-1/westernu-clubs-1/>

WesternU has a very active Student Government Association (SGA) on campus that serves as the voice of students. In addition, we have over 140 different clubs between the Lebanon and Pomona campuses

comprising of such diverse groups that include but are not limited to nationally affiliated professional organizations, cultural/religious groups, and interest-based groups.

Our clubs and classes take part in a variety of community service events each year including offering free health screenings at numerous health fairs, facilitating *Santa's Workshop* for over 300 foster care children and assisting at/participating in events such as the Special Olympics and 5K runs to support cancer research. We also host two *Club Days* per year where you have an opportunity to visit various club booths to discuss their mission and join as a member.

In addition, if you are interested in journalism, we encourage you to get involved in the publication of the **WesternU Humanism magazine**. The magazine is written and edited by students under the direction of faculty advisors.

### **Diversity**

We are proud of our diverse student body, and the many extracurricular activities offered on campus reflect that diversity. We offer a wide range of opportunities with campus organizations that include **cultural, religious, medical, and fine arts** clubs. The cultural diversity present on our campus provides students with an appreciation and respect for people of all backgrounds.



<b>OPTOMETRY-SPECIFIC STUDENT CLUBS &amp; ORGANIZATIONS</b>		
	<b>Club Name</b>	<b>Mission Statement &amp; Contact Information</b>
<b>AOSA</b>	American Optometric Student Association	To improve visual welfare, promote the profession of optometry and to enhance the education of optometry students. <a href="mailto:AOSAclub@westernu.edu">AOSAclub@westernu.edu</a>
<b>BSK</b>	Beta Sigma Kappa Optometric Honor Society	An elite group of optometrists and optometry students who are dedicated to stimulating scientific and clinical excellence, and high moral standards in the profession. <a href="mailto:BSKclub@westernu.edu">BSKclub@westernu.edu</a>
<b>COVD</b>	College of Optometrists in Vision Development	COVD exists for the primary purpose of providing children and adults with the best possible vision through vision development care; bringing together optometrists who share common interests and proficiency in helping individuals develop and enhance emotional, social, scholastic and vocational efficiency, promoting, fostering and engaging in interdisciplinary cooperation. <a href="mailto:COVDclub@westernu.edu">COVDclub@westernu.edu</a>
<b>CL</b>	Contact Lens Club	To provide club members unique insights into the applications and implications of contact lenses as a supplement to the optometry curriculum. <a href="mailto:CLclub@westernu.edu">CLclub@westernu.edu</a>
<b>CO</b>	Fellowship of Christian Optometrists	To promote, further, and maintain fellowship among optometry students/optometrists and others in the ophthalmic professions. Optometry students, optometrist and allied ophthalmic personnel will become established in the type of mission work which combines eye care and the furtherance of the Christian gospel, both in the workplace and on mission fields around the world. <a href="mailto:FCOclub@westernu.edu">FCOclub@westernu.edu</a>
<b>NOSA</b>	National Optometric Student Association	In conjunction with the National Optometric Association (NOA), NOSA focuses on increasing the under-represented number of minority optometric health care students, current and prospective, in the field of Optometry. <a href="mailto:NOSAclub@westernu.edu">NOSAclub@westernu.edu</a>
<b>OEP</b>	Optometric Extension Program	Promotes awareness of the national OEP Foundation through educational materials, speakers, office visitations, tours and local seminars. In all these ways, members will have the opportunity to learn and research vision, the visual process and clinical care. <a href="mailto:OEPclub@westernu.edu">OEPclub@westernu.edu</a>
<b>OPPB</b>	Optometry Private Practice Club	To prepare optometry students to transition from clinical education to the business aspect of optometry. <a href="mailto:OPPBclub@westernu.edu">OPPBclub@westernu.edu</a>
<b>CO</b>	Refractive Surgery Club	To increase awareness and knowledge of the various kinds of refractive surgery, to teach pre- and post-operative co-management techniques, and to establish a strong relationship between optometrists and refractive surgeons. <a href="mailto:RSCclub@westernu.edu">RSCclub@westernu.edu</a>
<b>SVC</b>	Sports Vision Club	To provide club members unique insights into the applications and implications of Optometric sports vision enhancement beyond what's covered in the College of Optometry curriculum. <a href="mailto:SVclub@westernu.edu">SVclub@westernu.edu</a>
<b>VOSH</b>	Volunteer Optometry Services to Humanity	An international organization that provides eye care services and glasses to the needy. <a href="mailto:VOSHClub@westernu.edu">VOSHClub@westernu.edu</a>



LEAD's goal is to be an academic success partner as students transition into professional school.

Health Sciences Center, Rm 101  
Western University of Health Sciences  
Learning Enhancement and Academic  
Development Office (LEAD)  
450 East Second Street  
Pomona, CA 91766-1854

**LEAD Services:**

- Academic Counseling
- Summer Preparedness & Readiness Course (SPaRC)
- Academic Editing
- Learning Style Assessment
- Outreach/Service Learning
- Tutoring Services

**Hours:**

7:15am-6:00pm Mon-Thur.

8:00am-5:00pm Fri.

Phone: (909) 469-5325

Email: [LEAD@westernu.edu](mailto:LEAD@westernu.edu)

**Academic Workshops**

- Time Management
- Test-Taking Skills
- Study Strategies
- Co-teach course segments in any of the colleges
- Workshops can be designed and facilitated upon request

**Stress & Wellbeing**

- Stress Management
- Physical Wellbeing
- Life Skills
- Healthy Living
- Emotional Wellbeing

**The LEAD Team**



Neil Patel, PhD  
Director  
(909) 469-5203  
[patelnm@westernu.edu](mailto:patelnm@westernu.edu)

**SPECIALIZATIONS:**  
Academic skills training, communication skills, assessment



Hector Arroyo Jr., Ed.D.  
Associate Director  
(909) 469-8499  
[harroyo@westernu.edu](mailto:harroyo@westernu.edu)

**SPECIALIZATIONS:**  
SPaRC Director, academic skills training, academic editing, test-taking strategies, communication skills, group dynamics, writing skills



Neil Birt, MS  
Learning Skills Specialist  
(909) 706-3827  
[nbirt@westernu.edu](mailto:nbirt@westernu.edu)

**SPECIALIZATIONS:**  
Academic editing, online learning, academic skills training, ESL assistance, test-taking strategies, assessment, data analysis



Martha L. Ruelas, MHSc  
Office Manager  
(909) 469-5325  
[mruelas@westernu.edu](mailto:mruelas@westernu.edu)

**SPECIALIZATIONS:**  
Office manager, SPaRC Program Coordinator



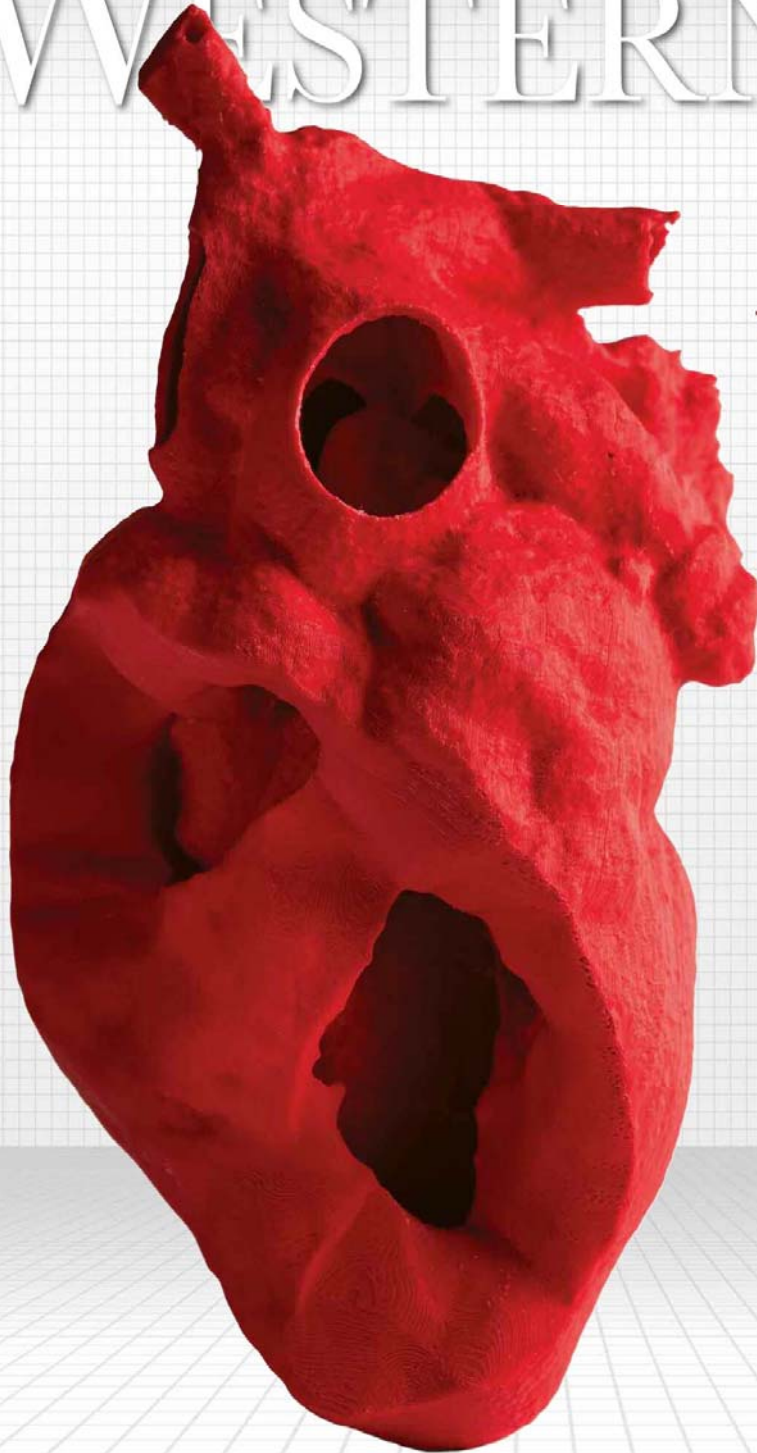
Melissa Lopez, PhD  
Learning Skills Specialist  
(909) 469-8347  
[mslopez@westernu.edu](mailto:mslopez@westernu.edu)

**SPECIALIZATIONS:**  
Academic editing, academic skills training

## ADMINISTRATIVE CONTACTS

<b>OFFICE OF ADMISSIONS</b>		
<b>Marie Anderson</b> , Director of Admissions, International Student Advisor	(909) 469-5485	manderson@westernu.edu
<b>Miranda Esparza</b> , Admissions Counselor <i>(works with last names A-E)</i>	(909) 469-5290	mesparza@westernu.edu
<b>Kelsey Casselle</b> , Admissions Counselor <i>(works with last names F-L)</i>	(909) 469-5649	kcasselle@westernu.edu
<b>Sarah Campos</b> , Admissions Counselor <i>(works with last names M-Q)</i>	(909) 469-5697	scampos@westernu.edu
<b>Annica Correa</b> , Admissions Coordinator <i>(works with last names R-Z)</i>	(909) 469-5231	acorrea@westernu.edu
<b>OFFICE OF FINANCIAL AID</b>		
	(909) 469-5353	finaid@westernu.edu
<b>UNIVERSITY STUDENT SERVICES</b>		
Beverly Guidry, EdD, VP for Enrollment Management & University Student Affairs		bguidry@westernu.edu
Christy Ho, Director for University Student Affairs	(909) 469-5616	hoc@westernu.edu
<u>Health Insurance</u> Alana Garcia, Executive Assistant	(909) 469-5343	adgarcia@westernu.edu
<u>Fitness Memberships</u> Jessica Kersey, Asst. Director for Student Affairs	(909) 706-3517	jkersey@westernu.edu
<u>Housing</u> Jared Abdus-Shakoor, University Student Affairs Assistant	(909) 469-5340	jabdusshakoor@westernu.edu
<b>COLLEGE OF OPTOMETRY STUDENT SERVICES</b>		
<i>For specific questions relating to optometry curriculum</i>		
Andrea Nuno, Director of Student Affairs	(909) 706-3903	anuno@westernu.edu
<b>LEARNING ENHANCEMENT/ACADEMIC DEVELOPMENT (LEAD)</b>		
Neil Patel, Director	(909) 706-3800	patelnm@westernu.edu
<b>BURSAR'S OFFICE</b>		
(tuition payments, parking permits)	(909) 469-5403	bursarsoffice@westernu.edu

# WESTERNU **VIEW**



## **Technology is Reshaping Medical Training at WesternU**

3D Printing Creates Custom  
Physical Models for Anatomy  
Lessons Made to Order

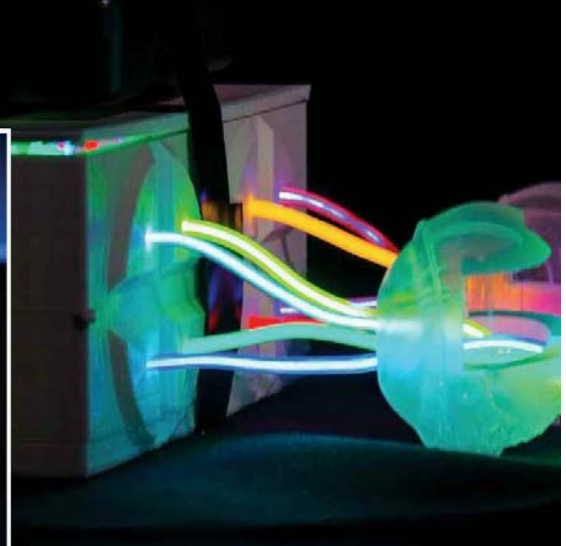
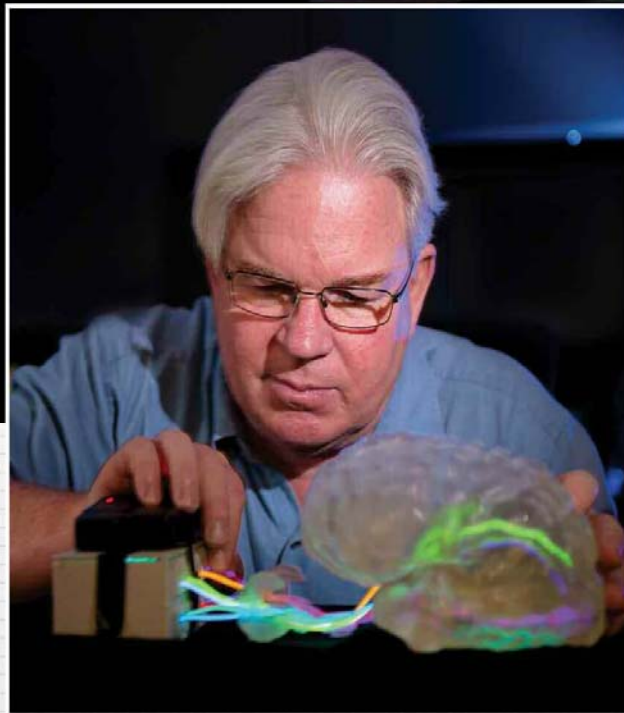
App Teaches Students  
About Extraocular Muscle  
Movements and Pathologies

A Kitten's Four Congenital  
Heart Defects Become Powerful  
CVM Problem-Based Learning Tool



# WesternU Professor, Educational 3D Technology team collaborate on a brain-eye pathways 3D learning model

By Jeff Malet, Writer/Photographer

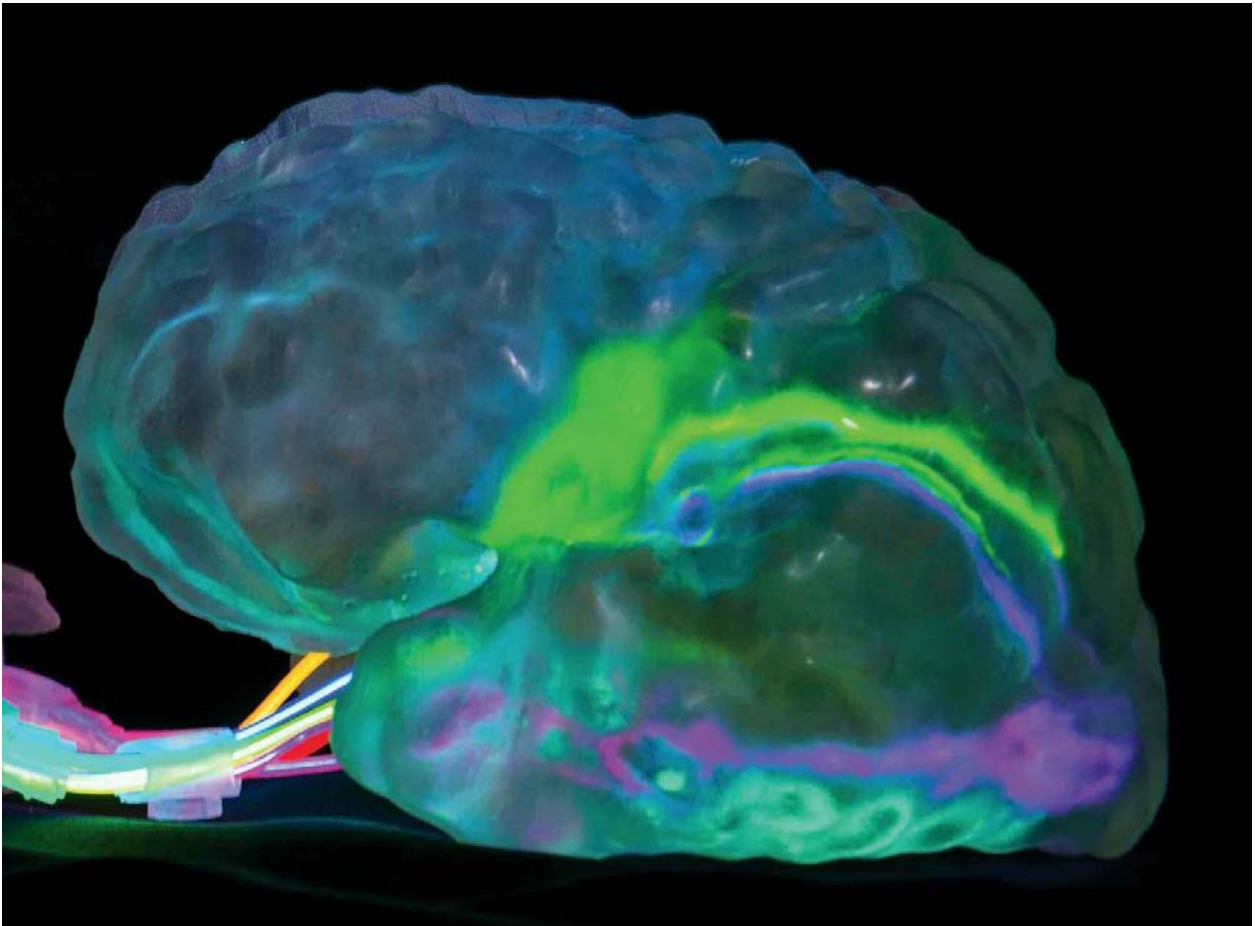


Educational 3D Visualization Specialist Gary Wisser (left) and Educational Application Designer Jeff Macalino worked on building the brain model and connecting the wires to the eyes for a functional prototype.

## 3D Printing Technology

3D printing of the brain is done using the Formlabs Form 2 SLA 3D printer, which uses stereolithography to convert liquid plastic and a laser to gradually harden resin. Clear resin is possible as are infinite custom color options. The resulting pieces are strong, detailed, and smooth. Printing times can vary from a couple of hours to a couple of days depending on the size, resolution, and number of objects being printed.





**A** Western University of Health Sciences professor and the WesternU 3D Educational Technologies team, part of WesternU Instructional Technology and Distributed Learning, are collaborating to create a brain-eye pathways 3D learning model to help improve comprehension of the visual pathways process.

College of Optometry Associate Professor **Joshua Cameron, PhD, FAAO**, and the 3D team have created a prototype that consists of an ocular/retina structure, a 3D printed brain made from resin, and color-coded electroluminescent wires that show relevant visual pathways. They are hoping to provide evidence about how student learning is impacted by 3D models in the vision science classroom, as compared to the effectiveness of other visualization approaches such as computer modeling and textbook images.

Cameron's goal is to have second-year CO students in his Vision Science 2: Monocular Sensory Vision (OPTM 6041) class team up and put together the 3D brain, eyes and color wires to correctly assemble the visual pathways process. They expect to prove that 3D models positively impact student learning, then will follow up with knowledge assessments that the students will take individually.

Cameron was awarded a 2018 Education Starter Grant in summer 2018 through the Association of Schools and Colleges of Optometry (ASCO) along with The Vision Care Institute LLC, an affiliate of Johnson & Johnson Vision Care Inc. The grant is titled "Advantages of 3D Printed Physical Models Over Computer-Generated Models and Textbooks." The project completion date is December 29, 2019.

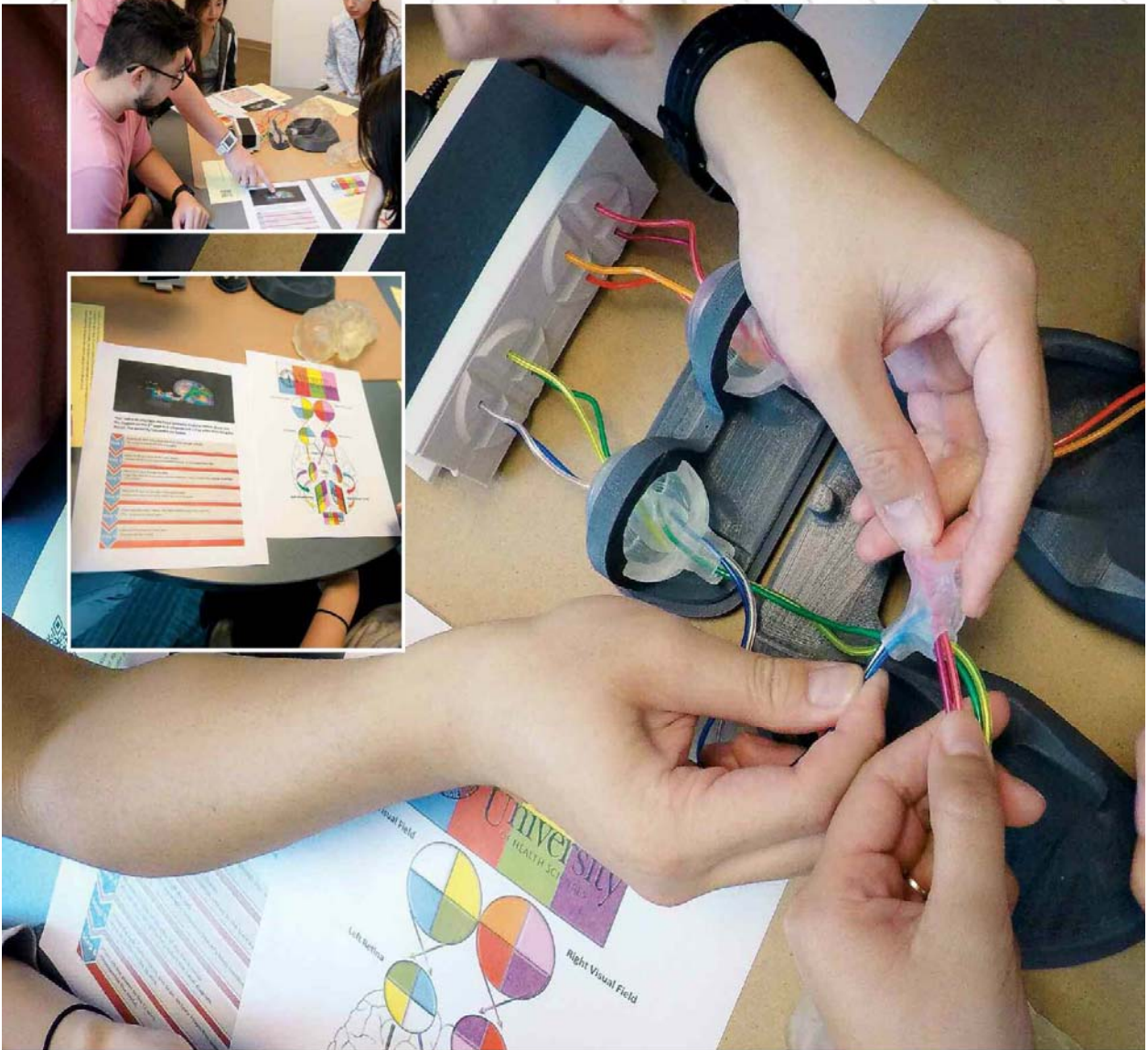
"The success of this project could lead to the development of additional 3D learning models for the vision science course or other curricula in optometry programs," Cameron said. "In addition to improving student learning through kinesthetic engagement with custom 3D models, students will be exposed to technology that may be the future of their profession as medicine embraces 3D printing to educate and treat patients."

Cameron met the 3D Technology team, led by Manager of 3D Educational Technologies Sunami Chun, during a Center for Academic and Professional Enhancement (CAPE) course titled "3D Pens for Student Engagement." The course was taught by Department of Physical Therapy Education Assistant Professor Steven Snyder, DPT '12.

The timeline for the grant includes a continued effort to improve the model through fall 2018 while students interact with it and provide feedback on design. Knowledge and student confidence questionnaires will be developed during the spring and summer of 2019, coinciding with final model development and full curriculum integration.



College of Optometry Associate Professor Joshua Cameron, PhD, FAAO, provides guidelines to second-year College of Optometry students during a lunch-time alpha test of assembling a visual pathways model. The test is to see if students could quickly assemble the model in under 15 minutes and to find out if procedures were clear.

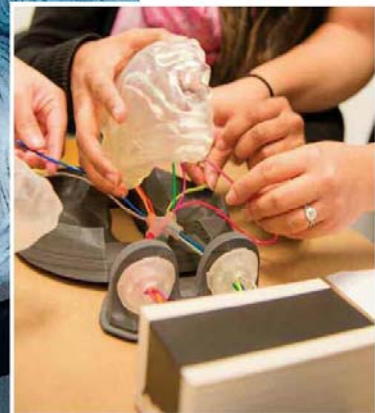


Since that meeting, they have collaborated through designing, printing and integrating electronics into an alpha version of the model. Educational 3D Visualization Specialist Gary Wisser and Educational Application Designer Jeff Macalino worked on building the brain model and connecting the wires to the eyes for a functional prototype.

“Our objective as the 3D tech team is to help enhance student learning,” Chun said. “We want to work with other colleges and programs to develop new ways to use this platform to teach. Under the Center of Innovation umbrella, it’s good to collaborate and come up with prototypes or solutions that we hope to market and have a revenue stream for the university.”

The timeline for the grant includes a continued effort to improve the model through fall 2018 while students interact with it and provide feedback on design. Knowledge and student confidence questionnaires will be developed during the spring and summer of 2019, coinciding with final model development and full curriculum integration. The study will take place during the first part of fall semester 2019. Results will be published in the *Journal of Optometric Education*.

“We want WesternU to be looked at as a top-level university in terms of technology innovation and having innovative ways of teaching,” Chun said. ■



# WesternU introduces EYE MOVEMENT SIMULATOR

By Rodney Tanaka

## MUSCLE SETTINGS

MEDIAL RECTUS	100%
LATERAL RECTUS	100%
SUPERIOR RECTUS	100%
INFERIOR RECTUS	100%
SUPERIOR OBLIQUE	100%
INFERIOR OBLIQUE	100%

## CRANIAL NERVE SETTINGS

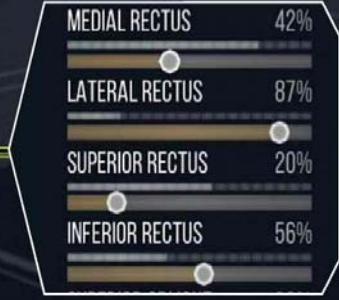
<input type="checkbox"/>	CN III-FULL (NO PUPIL)
<input type="checkbox"/>	CN III-FULL (PUPIL)
<input type="checkbox"/>	CN III-PARTIAL (NO PUPIL)
<input type="checkbox"/>	CN III-PARTIAL (PUPIL)
<input type="checkbox"/>	CN IV
<input type="checkbox"/>	CN VI

Western University of Health Sciences students and faculty are getting the first look at a game-changing Eye Movement Simulator that will help health care professionals across all disciplines learn about extraocular muscles and how to perform an eye exam.

WesternU's 3D Educational Technology department designed the Eye Movement Simulator (SimEye), a realistic 3D web application that simulates the movement of extraocular muscles (EOMs) and pupillary responses. The app simulates the physical examination of EOMs by dragging the computer mouse as the focal point for the eyes.

Pathologies can be reproduced using simple checkboxes to activate or deactivate the individual extraocular muscles and cranial nerves that control them. The realistic rendering in 3D provides pupillary responses, as well as blinking by the eyelids. You can test the desktop version at: <http://edtech.westernu.edu/3D-eye-movement-simulator/>

BLINKING



### CRANIAL NERVE SETTINGS

- CN III-FULL (NO PUPIL)
- CN III-FULL (PUPIL)
- CN III-PARTIAL (NO PUPIL)
- CN III-PARTIAL (PUPIL)
- CN IV
- CN VI

### MUSCLE SETTINGS



You can test the desktop version right now. The SimEye will soon be launched as a paid app in all app stores, but WesternU students, employees and alumni can download the app for free. Everyone who uses it is encouraged to click on the "Feedback" icon on the bottom right.



RESET

<http://edtech.westernu.edu/3D-eye-movement-simulator/>

   
Feedback Credits



College of Optometry students learn about the eye movement simulator in Assistant Professor Naida Jakirlic's class. (Photo by Alyssa Estersohn)

First-year physician assistant student Demy Tabangcura gets introduced to the web-based eye simulator created by the WesternU 3D Technology team.

"It was really difficult to develop the eye simulator because it involved a lot of complex equations we had to code into the app, but now it gives us confidence to keep working in challenging and interesting projects that will help our students learn and the University be recognized as an innovative institution," said Sunami Chun, manager of 3D Educational Technology.

The SimEye will soon be launched as a paid app in all app stores, but WesternU students and employees can download the app for free, and also become part of its development. Everyone who uses the app is encouraged to click on the "Feedback" icon on the bottom right.

"That's part of how we develop things, through collaborations with students and faculty members," Chun said.

The development of the SimEye started as a collaboration with faculty. WesternU Center for Academic and Professional Enhancement Director Tim Wood, DHSc, PA-C, used a desktop eye simulator application developed by UC Davis when he was a WesternU physician assistant student in the early 2000s, and it left a lasting impression. But the technology that supported that version became obsolete, so Wood came to 3D Educational Technologies with the project concept to create a new eye movement simulator updated for touch screens. Former College of Optometry Assistant

Professor Munish Sharma, MD, OD, provided his ocular expertise and technical specifications of ocular muscle movement.

WesternU faculty are incorporating the EyeSim into their lessons. College of Optometry Assistant Professor Naida Jakirlic, OD, introduced the SimEye to her students as she explained the positions and fields of action of the extraocular muscles.

"I am using the simulator to demonstrate normal eye movements and to demonstrate how the eye movements would look if a particular cranial nerve is affected," Jakirlic said. "It should help the students integrate basic anatomy of the head and neck with clinical presentations."

Optometry students must understand each muscle's primary and secondary actions. The SimEye has separate controls for each muscle in each eye, and the user can turn off a muscle to see how that impacts eye movement.

"What you can do is you can also click different cranial nerve palsies and see how that would look when you assess the EOMs," Jakirlic told her students. "You should use this to help you understand everything we talked about, so when the gaze is directed to the right and then you want to test the superior rectus, you would then direct the patient to look up."



A sixth cranial nerve palsy causes esotropia, where one or both eyes turn inward. The SimEye allows students to see how various muscle function or non-function affects its presentation.

“This is a really fun tool to play around with,” Jakirlic told her students. “You obviously can’t do this to your lab partners. You can’t give them a nerve palsy. This is a great way for you to figure out, ‘Where would the eye be if my third cranial nerve wasn’t working, if my fourth cranial nerve wasn’t working? What would that look like clinically?’ It’s a much different experience if you’re able to visualize it, almost like there is an actual patient in front of you.”

College of Health Sciences Instructor Lesa Maugh MS, PA-C, DFAAPA, introduced the eye simulator to her first-year Master of Science in Physician Assistant Studies students. First-year Physician Assistant student Demy Tabangcura said he will use the simulator to help him study and to test himself.

“It helps us visualize what’s going on when you obstruct the use of one of the cranial nerves,” he said. “The hard part of learning is seeing what is going on. If I do this to this nerve, the eye is going to do this. It’s more than memorizing a list of nerves and where they go. We’re learning the structure and function of the nervous system.” ■

## OTHER APPS

Available through app stores now



### Virtual Cranium App

The Virtual Cranium App was developed to provide 3D visualization of cranial bones and the sacrum landmarks and to test students’ knowledge of cranial landmarks, cranial bone motion, and strain patterns through interactive quizzes.

### Clinical Workbook AR Companion App

The EOC Cranial Companion App was created for COMP Chair of NMM/OMM Rebecca Giusti, DO '03, to demonstrate the motion and axes of the different cranial strain patterns from a 3D perspective immediately within the reference text for student visualization. Students scan a coded badge in the workbook, similar to a QR code, that then displays the 3D interactive model on their mobile device.



WESTERNU VIEW Winter 2018 | 29





Western  
University  
OF HEALTH SCIENCES

*The discipline of learning. The art of caring.*

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---