Marshall B.
KETCHUM UNIVERSITY

Marshall B. Ketchum University

COURSE CATALOG

2020-21

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CHAPTER I: INTRODUCTION

PRESIDENT'S MESSAGE

Thank you for visiting Marshall B. Ketchum University. We have reimagined a new kind of health care university – one that has been designed just for you. We have created a University specifically that meets the demand for highly educated and compassionate health care professionals. With over a century of experience in health care education as the Southern California College of Optometry, our rich history, experience and forward vision allow us to bring the future of health care education to you.

Our goal, as an interprofessional health care campus, is to prepare you to approach patient care as a team. As you are considering your many training options, you might ask yourself "How will this program prepare me for the practice of tomorrow?" By choosing MBKU, you will graduate as a more caring, compassionate health care practitioner ready to embrace the new paradigm in health care. Our century-old tradition of excellence in health care education will continue as we deliver to you a new kind of health care university! The future is expecting us and it is expecting you.

Kevin L. Alexander, OD, PhD
President

VISION, MISSION, CORE VALUES AND INSTITUTIONAL LEARNING OUTCOMES

Vision

We seek to reimagine the future of health care education.

Mission

The mission of Marshall B. Ketchum University is to educate caring, inspired health care professionals who are prepared to deliver collaborative, patient-centric health care in an interprofessional environment.

Core Values

Marshall B. Ketchum University is guided by the values of: Accountability, Caring, Excellence, Innovation and Respect.

Accountability
We are committed to honesty, fairness and responsibility for our words and actions.

Caring
We strive to address the needs of our university community and others by nurturing a spirit of compassion.

Excellence
Consistent with our legacy, we are committed to achieving outcomes of the highest quality.

Innovation
We have the courage to dream and experiment with creative and unique ideas.

Respect
We value the unique talents and diversity of people, strive to work collaboratively, and honor the open exchange of ideas.

Marshall B. Ketchum University Institutional Learning Outcomes [ILO(S)]

Domain 1: Communication

MBKU graduates demonstrate competence in listening, reading, speaking, writing and interpersonal skills.

Domain 2: Analytical reasoning and problem solving

MBKU graduates demonstrate competence in assimilation, evaluation and interpretation of evidence from multiple sources; and the application of that information to achieve optimal patient outcomes.

Domain 3: Interprofessional health education

MBKU graduates demonstrate competence as members of the healthcare team to provide quality health care services in an interprofessional environment.

Domain 4: Health information Literacy and Lifelong learning

MBKU graduates demonstrate ongoing competence to identify and analyze evidence-based health information in formulating successful outcomes for patients.

Domain 5: Professionalism

MBKU graduates demonstrate their professional competence with published standards of practice and codes of conduct as health care providers.

UNIVERSITY ACCREDITATIONS

MBKU is regionally accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC), 985 Atlantic Ave., Suite 100, Alameda, CA 94501; 510.748.9001; e-mail: wascsr@wascsenior.org.

The Doctor of Optometry program at SCCO is accredited professionally and nationally by the Accreditation Council on Optometric Education of the American Optometric Association, 243 N. Lindbergh Blvd., St. Louis, MO 63141-7881.

The Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) has granted **Accreditation-Continued** status to the **Marshall B. Ketchum University Physician Assistant Program** sponsored by **Marshall B. Ketchum University**. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA *Standards*.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the Standards. The approximate date for the next validation review of the program by the ARC-PA will be **March 2029**. The review date is contingent upon continued compliance with the Accreditation *Standards* and ARC-PA policy.

Marshall B. Ketchum University College of Pharmacy's Doctor of Pharmacy program has been granted Candidate status by the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite 4100, Chicago, IL 60603, Phone 312.644.3575; Fax 866.228.2631; Web www.acpe-accredit.org.

With respect to clarification of the meaning of Candidate status, graduates of a program so designed would, in the opinion of ACPE, have the same rights and privileges of those graduates from a fully accredited program. The Candidate status denotes a developmental program that is expected to mature in accord with stated plans within a defined time period. It should be underscored, however, that decisions concerning eligibility for licensure by examination or reciprocity reside with the respective state boards of pharmacy in accordance with their state statutes and administrative rules. Should Candidate status be awarded to a program, ACPE would, however, make its position known and make recommendations consistent with that position.

HISTORY

ABOUT MARSHALL B. KETCHUM UNIVERSITY

The health care university known today as Marshall B. Ketchum University evolved in response to the growing need to provide health care education in an interprofessional setting. Tracing our roots to the founding of the Los Angeles School of Ophthalmology and Optometry in 1904, we have become a new kind of health care university in response to changes in health care delivery. At MBKU, we focus not only on expert specialty training but also prepare practitioners to work in a multidisciplinary, collaborative practice environment.

OUR BEGINNINGS

The history of MBKU begins in 1904 with the founding of the Los Angeles School of Ophthalmology and Optometry that, over the years, became the Southern California College of Optometry (SCCO). As the third oldest school of optometry in the United States, SCCO has always been a leader in health care education. As the delivery of health care evolved to emphasize practitioners working together as a team, it was clear to the leadership of SCCO that the approach to health care education needed to change.

MBKU FOUNDED

In 2013, the SCCO Board of Trustees approved a university structure that would allow for additional programs, naming it after the founder of SCCO, Dr. Marshall B. Ketchum. Soon after, under the leadership of President Kevin L. Alexander, a Physician Assistant (PA) program was added and later a College of Pharmacy. Our approach to health care education includes: 1) world-class education within each discipline, 2) interprofessional training opportunities and 3) learning that combines advanced clinical training with innovative teaching methods. In short, at MBKU, we train you for the future of patient care.

PROGRAMS

MBKU offers the following degrees and programs:

- Doctor of Optometry (OD)
- Doctor of Pharmacy (PharmD)
- Master of Medical Science in PA Studies (MMS)
- Master of Science in Vision Science (MS)
- Master of Science in Clinical Optometry (MS)
- Honorary Degrees
- Optometric Residency Programs
- Continuing Education

Continuing Education

The MBKU Department of Continuing Education promotes lifelong learning through presentation of current and clinically relevant broad-based continuing education to health professionals primarily directed at optometrists, PAs and pharmacists. MBKU continuing education programs encompass a full scope of health-related evidence based courses designed to enhance patient care. Programs are delivered in approved formats that include live, hands on and online education courses.

Honorary Degrees

Honorary degrees may be conferred by the MBKU Board of Trustees upon those who merit recognition for distinct contributions or outstanding service to society, the university and/or the profession. The honorary degrees granted are Doctor of Ocular Science, Doctor of Humane Letters and Doctor of Laws. Honorary degrees shall not be conferred in absentia, nor shall an honorary degree be awarded as an earned degree.

COMPLIANCE STATEMENT

MBKU makes every effort to comply responsibly, and in a timely manner, with every state and federal government regulation involving the welfare of its students. Following are items of importance that address MBKU's ongoing efforts.

Use of the Catalog

The University Catalog is an annually published reference piece for prospective and matriculated students. The Catalog contains all programs offered by MBKU. Matriculated students will also be referred to the University Student Handbook and individual program student handbook.

MBKU assumes no responsibility for errors in, misrepresentation of, or misinterpretation of these policies. Please read the information carefully and be sure to contact Admissions, if you are a prospective student, or University Student Affairs, if you are a current student, for clarification or more information.

Every effort has been made to verify the accuracy of information contained in our Catalog, however, Marshall B. Ketchum University reserves the right to change without notice degree requirements, curriculum, courses, teaching personnel, rules, regulations, tuition, fees, and any published information herein.

The information in the Catalog is intended to serve only as an announcement. The University Catalog should not be regarded as a contract.

Non-Discrimination Statement

MBKU is committed to providing an environment in which all individuals are treated with respect and professionalism. In accordance with applicable federal and state laws, it is University policy to prevent the unlawful discrimination against students, applicants for admission, employees, applicants for employment and patients requesting treatment on the basis of race, color, national origin, sex, disability, age or any other characteristic protected by applicable law. The University also prohibits sexual harassment and harassment on any of the above bases (refer to the Prohibited Discrimination, Unlawful Harassment & Sexual Misconduct Policy).

Inquiries regarding the University's equal opportunity policies should be directed to the Vice President for Student Affairs at studentaffairs@ketchum.edu for students and the Vice President for Human Resources at humanresources@ketchum.edu for employees.

For further information on notice of non-discrimination, please contact the Office for Civil Rights at https://ocrcas.ed.gov/contact-ocr for the address and phone number of the office that serves your area, or call 1.800.421.3481.

Prohibited Harassment and Retaliation Policy

The University is committed to being a community in which individuals, including students, faculty, staff and administration, are free of prohibited harassment. The University will not tolerate any type of harassment against individuals on the basis of race, color, national origin, ancestry, sex (including pregnancy, childbirth, related medical conditions, and breastfeeding), gender, gender identity, gender expression, sexual orientation, age, religion (including religious dress and grooming practices), physical or mental disability, medical condition, marital status, military or veteran status, genetic information, citizenship, primary language, or immigration status, or any other basis protected by applicable federal, state, or local law ("a protected category"). The University also prohibits harassment based on the perception that an individual has the characteristics of someone in a protected category, or is associated with a person who has or is perceived as having the characteristics of someone in a protected category. Violence, or intimidation by threat of violence, because of political affiliation, position in a labor dispute, or on account of a protected category is prohibited as well. This policy applies at all University locations, University-sponsored social or other events, as well as activities at which individuals represent the University.

Harassment includes expressly or impliedly conditioning a benefit (or the absence of a detriment) on sexual favors, or the creation of a hostile university environment through visual, verbal, or physical conduct. Prohibited conduct includes any of the following when related to a protected category: making slurs, innuendos, or potentially offensive comments or jokes; the display of potentially offensive cartoons, posters, or other materials; distributing potentially offensive pictures or words in written, pictorial, or electronic form; touching, or other unwanted attention; threats, intimidation, or other abusive behavior.

Harassment is prohibited if it is related to a protected category, is unwelcome, and is severe or pervasive enough to create an intimidating, hostile, or offensive environment that alters conditions at the University. The University does not allow anyone to harass University students, employees, applicants, independent contractors, or volunteers on the basis of a protected category.

Additionally, the law prohibits unlawful harassment (and discrimination and retaliation) (e.g., Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Title III of the Americans with Disabilities Act, Unruh Civil Rights Act, Ralph Civil Rights Act). Harassment can be a form of unlawful discrimination. To report prohibited harassment and/or unlawful discrimination, please contact the MBKU Title IX Coordinator (TitleIX@ketchum.edu or 714.449.7423) or use the "Report a Concern" form found on the Community Tab of my.ketchum.edu.

Student Right-to-Know and Campus Security Act

MBKU continuously strives to provide a safe and secure environment for classroom, work, study and after-hours activities at all university-owned facilities. In accordance with Public Law 101-524, MBKU maintains and provides a complete record of all crimes committed on University and Security-owned property. A copy of the report may be obtained from the Vice President for Student Affairs or the Director of Safety and Security.

Privacy of Records

MBKU complies fully with the Family Educational Rights and Privacy Act of 1974, which protects the privacy of students' education records, establishes the right of students to inspect and review their education records and provides guidelines for the correction of inaccurate or misleading data through informal hearings. Students also have the right to file complaints with the U.S. Department of Education, Washington, D.C. 20202, concerning alleged failure by the university to comply with the act Education Code, Section 94312 (f). Any questions or problems concerning this institution which have not been satisfactorily answered or resolved by the institution should be directed to the Superintendent of Public Instruction, State Department of Education, Sacramento, CA 94244-2720.

Complaint Disclosure Notice

The MBKU complaint process is available in the MBKU Student Handbook. Students are encouraged to first utilize the MBKU complaint process but we are required by the Bureau for Private Postsecondary Education to inform you of the availability of the state complaint process.

An individual may contact the Bureau for Private Postsecondary Education for review of a complaint. The bureau may be contacted at 2535 Capitol Oaks Drive, Suite 400, Sacramento, CA 95833, www.bppe.ca.gov, 916.431.6924 or Fax: 916.263.1897.

CHAPTER II: UNIVERSITY POLICIES AND PROCEDURES

ACADEMIC POLICIES

Graduation requirements as well as academic standing/progression vary according to the Program and may be found in each Program Student Handbook. For student support type services offered, please see the University Student and Program Student Handbook.

Grading

Abbreviated course descriptions are presented in this Catalog. At the start of each course, students are provided a course syllabus indicating the course objectives and goals, a listing of required and recommended readings, the methods used, and examination given to assess learning and grading policies and a statement of classroom attendance requirements. Please note, examination policies differ by program. Students should refer to their respective Program Student Handbook.

Grading System

The following grades are used by the University Registrar's Office. Information regarding graduation requirements can be found in each Program Student Handbook.

Grade	Grading Points	Symbols	
A	4.0	AS	Advanced Standing
A-	3.7	AUD	Courses Audited without Credit
B+	3.3	E or I	Incomplete
B	3.0	FC, FD or FP	Remediated Failure
B-	2.7	HP	High Pass
C+	2.3	IP	In-Progress Course
C	2.0	W	Withdraw
D	1.0		
F (Failure)	0.0		
P (Pass)	0.0		
FC	2.0		
FD	1.0		
FP	0.0		

GPA Calculation

A student’s grade point average (GPA) is determined by dividing the total number of grade points earned by the total number of units attempted. No grade points are assigned for courses that were incomplete, courses audited by the student or any P/F coursework. If a course is taken more than once, the original grade remains on the student’s record; both units and grades are computed in the GPA. However, the newer grade is the standing grade used to determine requirement completion.

Definitions of other grades/notations used:

- "Advanced standing" indicates credit given for previous equivalent work. Forms to waive a course are available from University Student Affairs.
- "Audit" indicates that a student was granted permission to attend lectures in a class for no credit. Students may not audit laboratories or clinical assignments.
- An "incomplete" indicates that assignments have not yet been completed. It does not refer to the adequacy of the performance.
- The student's Program determines if course remediation is an option for the student. Successful completion of a remediation will result in a grade change to FP, FC or FD (see Program Student Handbook). A fee to remediate deficiencies and for make-up examinations may be charged.
- "Pass" indicates credit given for satisfactory completion of a pass-fail course.
- "High-Pass" indicates credit given for outstanding competency completion of a pass-high-pass-fail course, typically a clinical course.
- Some courses are taken over the course of a year, thus repeated each quarter. These In-Progress courses will be designated by an "IP." A grade is recorded in the final quarter of the course.
- "Withdraw" indicates that the student withdrew from the course or the Program.

Incomplete Grade

An incomplete grade indicates that assignments have not yet been completed. It does not refer to the adequacy of the performance. An incomplete grade for failure to complete assignments must be removed at a time designated by the instructor of record; but, no later than three weeks following the completion of the quarter or it will automatically be changed to failure unless an extension is granted by the Program Dean/Director. A student receiving an incomplete grade in a clinical course may have the completion of the work deferred for a period of time longer than three weeks subject to the written approval of the instructor of record.

Course Failures

All course failures in required coursework must be successfully remediated or repeated according to the student's Program policy for program progression.

- **Remediation**
  Students receiving an F grade must satisfactorily repeat the course or a remediation program. Successful completion of a remediation program will result in a grade change of FP, FC, or FD, depending on the Program (see Program Student Handbook).

- **Repeated Courses**
  The initial grade of F remains on the student's record and the repeated course grade earned will also be on transcript. Both credit hours and grades are computed in the grade point average.

Examination Review Policy

Examinations are a part of a student's record (see Education Records); therefore, students have access to review their examinations. Students must follow the procedures outlined by their respective program and/or faculty instructor for the course. In general, students are expected to attend examination review sessions if they are offered by a faculty member. If a formal exam review is not offered, students may schedule an appointment with the faculty member to review the examination. It is expected that students will not copy or replicate any part of the examination. Nor will students distribute any information from the examination to other students either in the form of actual test questions or in the form of tips or study guides. Any such action is considered a violation of the Student Code of Conduct. It is expected that faculty will make reasonable appointments available to students and allow students ample time to review their examinations in their entirety. Examination review provides students an opportunity to learn from their mistakes. While asking for explanations is expected, it is not appropriate to challenge the validity of the question. Appeals on exam questions should follow the Program-specific appeals process.

Grade Posting

Student grades are posted at the discretion of the instructor and in a manner that will attempt to maintain confidentiality. The University does not permit unauthorized disclosure of grades. Official course grades may be accessed via the Students Tab of the portal. For further information, refer to "Student Records Policies and Procedures" in the University Student Handbook.

Deadline for Final Grades and Grade Changes

Final course grades must be submitted to the University Registrar by the course instructor no later than one week (7 calendar days) after the final examination is given. All changes of a course final grade after this time must be submitted by the course instructor within thirty (30) days of posting of grades by the University Registrar. The exception to this rule is in the case of course remediation completion (see Program Student Handbook for details on course remediation, if offered). Change of Grade Request Forms are available on the faculty tab of portal or from University Student Affairs and must be filed by the instructor.

Protocol for Appealing a Grade

All course instructors are expected to publish their grading criteria at the beginning of the course and to notify students if there are changes during the course. If students are unsure how their grade was determined, they should follow this protocol for reconsideration of the disputed grade:

- In the case of a lecture exam or lab proficiency/practical exam, the student needs to do all of the following:
  - First, speak with the instructor and ask to review the examination. If the student feels their answer(s) were correct but not accepted by the instructor after this review, the student may file a written appeal with the instructor documenting why their answer(s) were correct.
  - If the student still is not satisfied with the response from the instructor, the student should appeal to the Chief Academic Officer for the Program.
  - Finally, the student may appeal to their Dean/Director, who will make the final decision on the appeal.
- In the case of an academic course grade, the student needs to do all the following:
  - First, discuss the determination of the grade with the instructor.
  - File a written appeal with the Chief Academic Officer for their Program.
  - Finally, the student may appeal to their Dean/Director, who will make the final decision on the appeal.

In the case of a clinical course grade, please refer to the Program Clinical Handbook.

All appeals of disputed grades must be written and include documentation supporting the appeal. This may include, but not be limited to, class notes/powerpoint presentations, literary citations on the topic in question, published grading criteria for the course in question and witnesses/witness statements supporting the student's appeal. If the grading criteria included attendance and/or the taking of examinations on time, and the student wishes to appeal a grade due to an absence, the student must document that they followed program policy on reporting the absence prior to the examination, in order for the appeal to be considered.

If a student alleges that the grade was issued in an arbitrary, capricious, or malicious manner, contact the Program Dean/Director for redress options.

Repeating Coursework or Modified Curriculum

Students repeating coursework or enrolled in a modified curriculum, that have been directed to repeat one or more failed courses, are charged a per credit hour tuition rate when enrolled part-time. The rate is calculated by dividing the total credit hours required by the tuition cost for the Program based on the current annual tuition rate. This amount is multiplied by the number of credits being repeated.

Students, either electing with permission or directed to repeat coursework previously taken and successfully completed with a passing grade of "pass" or a "C" or better, will be enrolled as repeating the course. The course will appear on the transcript and a grade will be recorded. While both grades will remain on the transcript, the newer grade will be considered the standing grade used to determine requirements for graduation. Even if a previous attempt was a passing grade, if a subsequent attempt results in failure, the F grade stands as the current grade for the course.

Students directed or electing with permission to repeat a previously successful quarter of coursework may not be charged tuition fees. Students entering the quarter where they exited will pay tuition for all enrolled course work. Students will be charged a per credit hour tuition fee if enrolled less than full time.

All students on a modified program are required to have a signed agreement on file with University Student Affairs.

Elective Curriculum

Electives provide options to enhance student learning and allow for more individualized (self-directed) professional development. Programs may require completion of a certain number of elective courses to complete degree requirements (some do not). Elective courses have administrative requirements for development and delivery that include both minimum and maximum enrollment numbers and early registration dates. Generally, students apply to the course instructor for approval/admittance into an elective course. The University Registrar will enroll approved students into elective courses.

Students that complete an elective course will receive a grade on their transcript. Grades may be pass/fail or a letter grade, with the course instructor determining the grading criteria. Elective courses can only use one grading modality (i.e., the instructor cannot grade some students on a P/F basis and other students on a letter-graded basis). No credit for auditing a course is available, though an instructor may choose to allow students to unofficially attend the course. Credit hours acquired during the completion of elective courses will add into the cumulative units in the Program. Failing grades may/may not affect the student's GPA, depending on whether the elective was given as a P/F or letter-graded course.

General admittance criteria:

- Programs may require students to be in good academic standing to enroll in optional elective coursework. In addition, individual instructors may set specific GPA standards.
- Prerequisites are determined by individual faculty and may include (but are not limited to) general course grades, course grades in an individual track and student motivation (possibly assessed by a statement of interest and/or an interview).

University Course Elective Drop and Withdraw Policy

Due to the nature of the curriculum, students do not have the option of dropping or withdrawing from courses in the required curriculum. Students may, with special permission, drop or withdraw from an elective course determined by program policy. Please note, COP does not allow students to withdraw from elective coursework because they are a degree requirement.

The Program will alert its students of the electives offered and will notify the University Registrar of the elective courses and student enrollment. Once the Registrar has received notice from the Program, the student is considered enrolled in the course, regardless of when the course starts. If the student wishes to drop the course, the student is required to contact the instructor and obtain the necessary approval. Program policies will determine if the student will be allowed to drop the elective course and will designate if the drop is permitted and if it is to be recorded as a "drop" or "withdraw."

A "drop" means the student is no longer enrolled in the course and there is no indication of registration on the student's transcript. A "withdraw" means the student is no longer enrolled in the course; however, the course is on the student's transcript and a "W" is noted in place of a grade, indicating the student withdrew from the course. This does not affect a student's GPA.

Per University policy, no student may drop an elective course after the 2nd week in the quarter and no student may withdraw from the course after the 10th week in the quarter, unless the student is withdrawing from the University.

Attendance

Marshall B. Ketchum University expects regular attendance at all lecture, laboratory and clinic sessions to which the student is assigned. Each program determines the specific attendance policy and procedures (see Program Student Handbook). The record of attendance is the responsibility of each individual instructor. Permission to be absent must be obtained from the dean/director of the program or the Program designee. Instructors are not obligated to provide special consideration in the case of unexcused absences. Repeated unexcused absences may result in a student being placed on professional probation. In addition, students wishing to participate in off-campus meetings during the academic year must receive academic approval from the dean/director and may not be on academic probation.

The academic credits at MBKU are described in terms of quarter credit hours. One credit hour represents one hour per week in the classroom during a 10-week quarter, two hours per week devoted to laboratory, or four hours per week of clinical work or equivalent contact hours.

Examinations are held in each course and are required of all students taking the course. All students must take all examinations, including final examinations, at the assigned time, unless prior arrangements have been approved by the instructor of record. Each program determines the procedures for reporting if a student must miss an exam because of an emergency (see Program Student Handbook). All missed exams must be made up as specified by the Program. Course grades are assigned by the instructor of record.

Enrollment Status

At MBKU, a student's full-time status is defined differently by the year and the Program they are enrolled in. Please see the below table for the definition for full-time enrollment status for each quarter. One exception is for Pharmacy 2nd and 3rd year Summer Quarter, where full-time is 6 credit hours.

Program	Year 1	Year 2	Year 3	Year 4
Optometry	12 Credit Hours	12 Credit Hours	9 Credit Hours	9 Credit Hours
Pharmacy	12 Credit Hours	9 Credit Hours	9 Credit Hours	12 Credit Hours
Physician Assistant	12 Credit Hours	9 Credit Hours	12 Credit Hours	Not Applicable

Course Delivery Method Definition

A course may be classified as a distance education course, a hybrid education course, or a face-to-face education course and the principally will be interpreted as 70–75% or greater.

- A distance education course is offered principally by distance delivery methods.
  - Distance delivery means that the student and instructor are not both physically present at the same time and place. Examples are course activities offered through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing.
- A face-to-face education course is offered principally by face-to-face delivery methods.
  - Face-to-face delivery means that the student and instructor are both physically present at the same time and place.
- A hybrid education course is one in which there is a blend of distance delivery and face-to-face delivery methods. The course meets neither the distance education nor the face-to-face definition.

Academic Probation or Dismissal

Rules for academic probations and dismissals vary according to the academic Program and may be found in the Program Student Handbooks. A student on probation/alert may not participate in work-study nor hold office in a class, student association, fraternal, or any other student organization. In addition, students on academic probation may not participate in off-campus meetings during the academic year. Students who are not making satisfactory progress will not be eligible to receive loan monies through programs of the federal government.

Teach Out Policy

In accordance with 34 CFR 602.24(c) of the Secretary's Recognition of Accrediting Agencies from the Department of Education, the MBKU Teach Out Policy is designed to protect the interests of all students. In the unlikely event of a Program closure or loss of accreditation, the University has resources in place to ensure that each Program can complete the education for each student who has formally matriculated into the Program. Should a Program be discontinued, the University and Program's accrediting agency shall develop a Teach Out Plan/Agreement which should allow each matriculated student to complete the respective Program of study.

FINANCIAL AID POLICIES

Student financial aid includes all resources used to finance education (other than those provided directly by students and their families). It includes scholarships; grants; work-study; and Federal, private, and institutional educational loan programs.

For general and program-specific Financial Aid and Student Accounts Services information, visit the Financial Aid tab of the MBKU portal.

In awarding financial aid, MBKU does not discriminate on the basis of race, color, national origin, sex, disability, or age.

Contact Information

Email	financialaid@ketchum.edu	**FAFSA School Code**	001230
Phone	714.449.7448	**Address**	Marshall B. Ketchum University (Name of MBKU Program) ATTN: Financial Aid 2575 Yorba Linda Blvd. Fullerton, CA 92831-1699
Location/Hours	MBKU Fullerton Campus, Building D #226 Monday - Friday 8:00 A.M. - 5:00 P.M.		

Eligibility and Application Process

Financial aid is awarded on an annual basis. Students must apply for financial aid each academic year of attendance by submitting the Free Application for Federal Student Aid (FAFSA) at www.studentaid.gov. (School Code: 001230)

Satisfactory Academic Progress (SAP)

The U.S. Department of Education requires all universities to develop and enforce an internal system to monitor the academic progress of financial aid recipients. A student must maintain Satisfactory Academic Progress in order to remain eligible for all financial aid programs, including student loans. The academic progress of financial aid applicants and recipients is reviewed upon initial application to the University and then annually, following spring quarter each year.

SAP Standards

MBKU's SAP policy contains three components students must meet to maintain eligibility for financial aid:

1. **Minimum Cumulative Grade Point Average (GPA)***

   SCCO Students must maintain a *minimum* cumulative GPA of 2.5 or higher
   College of Pharmacy students must maintain a *minimum* cumulative GPA of 2.0 or higher

   *Students enrolled in the School of Physicians Assistant Studies are graded on a pass/fail basis and as such are not measured for SAP on GPA.

2. **Unit Completion Rate**

   All students must complete with a passing grade 100% of their attempted units each academic year. All courses a student is enrolled in beyond the add/drop period will be counted as units attempted, including, withdrawals, no credit, and incomplete courses. For those programs that allow students to remediate a failing grade, the remediated failing grade will count as passing, for the purposes of MBKU's SAP policy.

3. **Maximum Time Frame**

   Students must complete their educational program within 125% of the minimum number of curriculum units required to complete their degree. Example: a program requires 100 units minimum to graduate, students may receive financial aid for up to 125 units.

   All quarters of enrollment (including summer) will count toward the maximum time-frame as well as any transfer credits (if applicable), including enrollment in terms in which no financial aid is received.

Financial Aid Disqualification

Students who fail to meet any of the above minimum standards of the financial aid SAP Policy are no longer eligible to receive financial aid at MBKU. Student's may appeal their disqualification; see the Appeal Process section, below.

Regaining Financial Aid Eligibility

Students who have lost eligibility for financial aid due to not meeting the University's SAP standards can be reinstated by successfully completing sufficient units to again meet all university SAP standards. SAP is evaluated for all students at the end of spring quarter. If a student believes they have regained eligibility prior to the posting of spring grades, the student should contact Financial Aid: financialaid@ketchum.edu to be considered for reinstatement.

Appeal Process

If extenuating circumstances apply, students who are not meeting SAP are encouraged to appeal their disqualification. To appeal, the student must contact Financial Aid: financialaid@ketchum.edu.

If a student's SAP appeal is approved, they will be placed on financial aid probation during the next quarter. The student's progress will be reviewed once grades for the following quarter are posted. To continue receiving financial aid the student must be following and making positive progress on their specific academic plan for improvement. Student's remaining on financial aid probation will have their grades reviewed at the end of each quarter until they are again meeting the University's SAP standards.

Academic Disqualification

Students who are academically disqualified from the University are no longer eligible to receive financial aid. A student who is academically reinstated to the university will need appeal with Financial Aid to be considered for financial aid reinstatement.

If you have questions regarding SAP, please contact Financial Aid at 714.449.7448.

Financial Aid Disbursements

Financial Aid funds are disbursed through Student Accounts Services. The total amount of financial aid for the academic year is divided among quarters for which the student is enrolled, as reflected in the financial aid award letter.

Students must meet all eligibility requirements before financial aid is disbursed. Eligibility requirements include, but may not be limited to: being officially admitted to MBKU, enrolling in the minimum number of units for aid eligibility, maintaining satisfactory academic progress (SAP), and completing all necessary requirement documentation.

Notice of Disbursement and Right to Cancel Federal Loans

Students and borrowers have the right to cancel the entire loan or any portion of any federal Direct or PLUS loan. Requests to cancel a specific loan disbursement may be submitted to financial aid prior to the date of disbursement (crediting to the student's account). If wishing to cancel or reduce a loan after disbursement, students may repay the loan directly by contacting their loan servicer. The borrower will be responsible for any interest that may have accrued and/or any loan fees.

Exit Counseling

Federal law requires students who borrow from the Federal Direct Unsubsidized, Federal Graduate PLUS, Federal Perkins, HPSL and/or LDS loan programs to complete exit counseling upon graduation, withdrawal, or enrollment less than half-time. Additionally, MBKU requires exit counseling for students receiving the Harris and/or Kanai institutional loans.

Whenever a student who has received financial aid graduates, drops below half-time enrollment, or leaves MBKU for any reason prior to graduating, the student must complete exit counseling. As this is a federal requirement, MBKU will withhold a graduating student's diploma until the exit counseling is completed.

This counseling provides comprehensive information on the details on the loans borrowed, how to keep the loans in deferred status if needed, and a comparison of the current federal repayment options.

Repeated Coursework

Per Federal regulations, if a student wishes to repeat a course for which they have previously received a passing grade, the repeated course will be eligible to be paid financial aid for only one repeated instance.

> **Example:** A student receives a grade of D in a course and chooses to take the course a second time; the units associated with the repeated course will count toward the student's financial aid eligibility for one repeated attempt only. Further enrollment in the same course beyond the first repeat are not permitted to count toward financial aid eligibility.

Return of Title IV Aid

Per Federal regulations, all students receiving Federal financial aid who completely withdraw from all their courses through the 60% point of the quarter are subject to return a portion of their Federal financial aid received.

- During the first 60% of the quarter, the student "earns" federal aid in direct proportion to the length of time she or he remains enrolled. Students who withdraw after the 60% point of the quarter are not required to return funds.
- A percentage is calculated by dividing the number of days completed in the quarter by the number of calendar days in the quarter. The percentage is applied to the amount of aid the student is eligible to receive for that quarter.
- MBKU will return to the Federal Government a proportional share of institutional charges the student has paid.
- If there is an amount still owed to the government after MBKU returns funds, the student will be responsible to return a portion of unearned funds.
- If the student is entitled to a refund from the University, any refund will be first applied to the student's obligation to return unearned aid before he or she receives a refund of any excess funds. Thus, portions of institutional refunds may be applied on the student's behalf to his or her outstanding Direct Loan and not actually refunded directly to the student.
- Non-federal aid programs (e.g. private and institutional student loans) are not included in the calculation.

Federal Work Study

Eligibility

Federal Work Study is a need-based Financial Aid program. Students participating in the program must be U.S. citizens, permanent residents, or eligible non-citizens; filed a FAFSA; and provided Financial Aid with all required employment documentation.

International students are not eligible for the Federal Work Study program, but they may work an on campus job a maximum of 20 hours per week.

University policy excludes students on academic or professional probation from the Federal Work Study program. Supervisors reserve the right to remove students from their respective role if not meeting pre-established academic and/or professional standards.

Obtaining a Federal Work Study Position

Federal Work Study jobs and employment forms (listed below) are available on the Work Study page in the Financial Aid tab of the MBKU portal. The following two forms are required for employment and are submitted directly to Financial Aid:

Form W-4
This Internal Revenue Service form allows MBKU to withhold the correct federal income tax from your pay. Resubmit this form if you change your name, marital status, or exceptions.

I-9 Form
This is the employment eligibility verification form which is a legal required for all employment in the U.S.

Federal Work Study Time Sheet

Federal Work Study students will record hours worked on an electronic timesheet through PayCom. Financial Aid will provide log-in information and instructions for submitting time sheets. If you need assistance please contact Financial Aid: financialaid@ketchum.edu.

Direct Deposit Request Form

To receive your Federal Work Study wages as quickly as possible, all students are strongly encouraged to sign up for direct deposit. This form is located on the Work Study page in the Financial Aid tab of the MBKU portal.

Federal Work Study Limits

Students may work no more than 8 hours per day and no more than 6 consecutive work days in a Sunday through Saturday work week. At a minimum, a 30 minute break must be taken after five continuous work hours, unless your work day is less than six hours.

Ending a Federal Work Study Position: Federal Work Study students who wish to end their employment must inform their supervisor as soon as possible. While not required, it is customary and appreciated to provide a two week notice.

STUDENT ACCOUNTS SERVICES POLICIES

Payment Procedures

Full tuition and fees are due and payable by the start date of each quarter. A ten day grace period follows. Payments received after the grace period will incur a late fee of $50. Interest will be charged on past due balances. A student may not proceed from one academic year to the next without having fully paid the previous year's tuition and fees. Any exceptions must have prior approval of the administration.

A fee to remediate deficiencies and for makeup examination may be charged. Students required to complete clinical courses following the date of graduation are responsible for tuition charges.

Tuition Refund Policy

A withdrawal is considered official when written notification has been received by the Vice President for University Student Affairs stating the student's intention to withdraw from the university. All refunds are subject to review by the Vice President for University Student Affairs. For official withdrawals, tuition will be prorated at following intervals:

- Before the first day of the quarter: 100%
- 1st week: 90%
- 2nd - 3rd week: 75%
- 4th - 6th week: 50%
- 7th week: 25%
- After week 7: 0%

Tuition Prepayment Policy

Any student requesting to prepay his or her tuition for one or more years beyond the current year's tuition may prepay his or her future tuition at the current year's tuition rate provided the full payment for the current year and for each subsequent year(s) is received by MBKU Student Accounts Services no later than thirty (30) days following the first day of the current year Fall Quarter. Future annual tuition increases will not be charged to those students who have elected to fully prepay their future tuition. Any student who is dismissed or officially withdraws from the program, as per the requirements stated in the MBKU catalog, will have his or her prepaid tuition returned, except for the current year's tuition, which will be refunded as per the policy stated in the current MBKU catalog.

CHAPTER III: PROGRAMS
SOUTHERN CALIFORNIA COLLEGE OF OPTOMETRY

DOCTOR OF OPTOMETRY

Mission

To educate today's minds to provide tomorrow's eye, vision and health care.

PROGRAM OVERVIEW

The Doctor of Optometry is a 4 year academic program that prepares graduates to deliver contemporary eye, vision and health care as an integral member of the primary care health team. During the first year, students are exposed to the basic sciences and research techniques. Included are courses in geometrical and physical optics, biomedical sciences, visual sciences and clinical techniques. First-year students also receive their first introduction to patient care at Ketchum Health, the university's eye and health center.

The second year emphasizes clinical techniques and advanced studies in visual science. Students begin seeing their own patients at Ketchum Health in the second quarter of the second year.

Third-year students have patient care assignments at Ketchum Health under the supervision of clinical faculty and take courses in contact lenses, vision therapy, diseases of the eye, ocular pharmacology, clinical optometry and public health.

The final year is primarily spent serving patients in the various facilities of the outreach clinical program. Some assignments in the specialty services at Ketchum Health are also included.

The mission of the Southern California College of Optometry's outreach clinical programs is to deliver the highest quality patient care and service and to educate clinicians in the art and science of optometry in diverse patient care delivery environments.

The degree of Doctor of Optometry will be conferred on students who are officially admitted to, and who satisfactorily complete, the four-year professional curriculum in optometry. Satisfactory completion of the SCCO program will academically qualify the graduate to apply for licensure in each of the 50 states.

ADMISSIONS

The Southern California College of Optometry is committed to accepting a diverse group of qualified individuals from a variety of backgrounds and experiences in accordance with MBKU's nondiscrimination policy.

Criteria

Functional Guidelines for Didactic and Clinical Optometric Education

The functional guidelines in optometric education require that the candidate/student possess appropriate abilities in the following areas: 1) observation; 2) communication; 3) sensory and motor coordination; 4) intellectual –conceptual, integrative and quantitative abilities; and 5) behavioral and social attributes. Each of these areas is described below.

Observation Abilities

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 Abilities

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 using traditional and alternative means. 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 Abilities

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 Abilities

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 Attributes

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

It is our experience that a number of individuals with disabilities, as defined by Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, are qualified to study and work as health care professionals and scientists with the use of reasonable accommodations. To be qualified for health sciences programs at MBKU those individuals must be able to meet both our academic standards and the technical standards, with or without reasonable accommodations.

For further information regarding services and resources for students with disabilities and/or to request accommodations, please contact the Office for Student Affairs.

Prerequisites

Academic requirements for admission to SCCO are based on standards set by the California State Board of Optometry, the accrediting bodies and the judgment of the Admissions Policy Committee.

To be considered as a candidate for admission to the professional OD program, a four-year baccalaureate degree is recommended but not required. However, applicants who complete a minimum of 90 semester or 135 quarter credit hours of undergraduate study will qualify for admission. To be eligible to apply, the applicant must be on track to complete the required credit hours through the summer term that precedes fall matriculation.

The minimum prerequisite courses must be completed at a regionally accredited college or university in the U.S. or Canada. Applicants who are not U.S. citizens or permanent U.S. residents must submit a certified bank statement showing their ability to pay for the first year of education prior to an I-20 form being issued for immigration purposes.

The following courses must be completed, prior to enrollment, at a regionally accredited institution, in the U.S. or Canada, with a grade of "C-" or better, and are the minimum requirements for all applicants:

6 semester credit hours or 9 quarter credit hours:

- General Biology or Zoology (no lab required)

8 semester credit hours or 12 quarter credit hours in each of the following:

- General Physics (one year sequence, including labs)
- General Chemistry (one year sequence, including labs)

3 semester credit hours or 4 quarter credit hours in each of the following:

- Calculus (analytic geometry/calculus also acceptable)
- General Microbiology or Bacteriology (including lab)
- Human Anatomy (no lab required)
- Human Physiology (no lab required)
- Organic Chemistry (no lab required)
- Biochemistry (no lab required)
- Psychology
- Statistics

6 semester credit hours or 8 quarter credit hours:

- English Composition or Literature (writing intensive courses are acceptable)

Placement (AP) courses for the prerequisites will be accepted as long as the appropriate number of credit hours was received. These courses must appear on your official college transcript or in a letter from the registrar.

Procedures

The number of applicants for admissions to SCCO regularly exceeds the number of available spaces. SCCO, as a regional and national resource, receives applications from nearly every state in the nation.

All first time applicants, re-applicants and those who have been previously enrolled in another optometry program must apply through the centralized service OptomCAS at www.optomcas.org. Applicants must follow the instructions on how to complete the application, submit transcripts and submit letters of recommendation. In addition, SCCO's supplemental application is located on the OptomCAS site and may be completed after selecting SCCO as a program to receive the application. The SCCO supplemental application fee is $75 and must be paid directly to SCCO through the MBKU portal. Applicants will receive an automatic notification of how to pay the supplemental application fee once the application is received from OptomCAS.

The official SCCO application period is July 1 (the first day of the OptomCAS cycle) through April 1. Applicants must submit both application and college transcripts to OptomCAS by April 1.

Optometry Admission Test results will only be released to schools and colleges that an applicant selects. Applicants should designate SCCO as a recipient of test scores at the time the exam is taken. The website for the OAT program is: www.ada.org/en/oat. The last OAT test date that will be accepted is April 1.

Accepted applicants who passed the criminal background check and have been notified of their acceptance are required to submit a non-refundable matriculation fee of $750 within two weeks of their acceptance. By May 15, a second non-refundable $750 deposit is required to secure their seat. The full $1500 deposit will be credited to the Fall Quarter tuition upon their enrollment.

Accepted candidates who have not completed all course prerequisites at the time of application must do so before beginning studies at SCCO.

Send a request for more information on the application and interview process to ODadmissions@ketchum.edu.

Process

Once applications are received, it is SCCO's responsibility to select those applicants who are best qualified to make a contribution to the public and profession and who will benefit most from the optometric education program. The decision for admission is based on the applicant's ability, scholarship, character and motivation.

Approximately four weeks after the completed application has been submitted to OptomCAS, SCCO will begin the process of evaluation. Though not a mandatory requirement, letters of recommendation will be available to SCCO through OptomCAS. OAT scores are automatically processed and become available from the testing center within two weeks after the exam.

The admissions procedure begins with a screening of each applicant's scholastic qualifications including the college record and the OAT scores. The goal is to select students who are academically capable of completing the Doctor of Optometry program.

Next, the applicant's personal qualifications are reviewed, since the study and practice of optometry requires great responsibility, maturity, ethics, devotion, intellectual curiosity and social commitment. Letters of recommendation, essays and extracurricular activities are evaluated.

Candidates will be invited to campus for interviews dependent upon their academic and professional potential credentials. Interviews will begin in the fall and will be completed early in the spring. The interview enables SCCO and the applicant to learn more about each other. Additionally, the interview process endeavors to appraise such personal qualities as responsiveness, warmth, social situation adjustment, the communication of clear and concise ideas, maturity and career motivation. Should an applicant successfully interview, a provisional acceptance is offered pending successful completion of a routine criminal background check.

Combined Program

A combined Doctor of Optometry and Master of Science in Vision Science program is also available. Students admitted into the combined program are chosen from those accepted into the regular four-year Doctor of Optometry program. Students may apply for admission into the two programs concurrently or OD students may apply as late as the end of Winter of their first professional year.

Transfer Applications

The Southern California College of Optometry does not accept transfer students or offer advanced standing under any circumstances. All applicants to our program must apply through OptomCAS and complete the entire four-year program.

FINANCIAL INFORMATION

Tuition
2020–21 Tuition, Doctor of Optometry program

	Summer Quarter	Fall Quarter	Winter Quarter	Spring Quarter	Total
1st/2nd year tuition	-0-	$15,314	$15,313	$15,313	$45,940
Matriculation credit (1st-yr)	-0-	-1,500	-0-	-0-	-1,500
Net tuition: 1st-yr	-0-	$13,814	$15,313	$15,313	$44,440
Net tuition: 2nd-yr	-0-	$15,314	$15,313	$15,313	$45,940
Net tuition: 3rd/4th-yr	$11,485	$11,485	$11,485	$11,485	$45,940

Tuition for returning students enrolled less than full time

Tuition (less than full time) per credit hour……$814

Audit per credit hour……....$100

Fees

Mandatory Equipment and Materials fee……..$922/quarter for 10 quarters (first 3 years of program)

Annual Student Association fee……..$120

Class Account fee……..$45

Graduation fee (charged once in the final year)……$175

Annual Parking fee (optional)……$300

Evaluation of transcripts in special cases (advanced standing OD program)……$350

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

COURSES

BVS 511: Applied Biomedical Science. (3 credit hours)

Three lecture hours per week. This course integrates a review and clinical applications of Biochemistry, Genetics, Immunology and Microbiology. Clinically important aspects of biochemistry and microbiology as it relates to normal and abnormal vision function are presented. Basic and clinical aspects of bacteriology, virology, mycology and parasitology are covered. Infections of the eye are discussed in relation to techniques for laboratory isolation, culturing and identification of the infectious agents. The genetic component of this course introduces the fundamental concepts of molecular genetics through an understanding of DNA, RNA, mRNA and tRNA. Immunology content introduces the types of immunity in humans. Allergies are presented with emphasis on those allergies important to optometrists. The response of the normal human immune system to infection and the collapse of the immune system during the development of AIDS is included.

BVS 513: Neurophysiology. (4.5 credit hours)

Three lecture hours and three laboratory hours per week. This course presents the study of the central nervous system, including cellular neurophysiology, organization of sensory pathways, voluntary control of movement and the physiology of central visual pathways. Laboratory instruction includes the gross and microscopic anatomy of the nervous system, the study of the major sensory and motor pathways of the brain, as well as discussion of the clinical correlations of neuro-anatomical structure.

BVS 515: Pharmacology I. (3 credit hours)

Three lecture hours per week. This fundamental course in pharmacology introduces the student to basic concepts of drug effects on the body organs and systems, including the eye. The pharmacological actions, mechanisms, clinical applications and potential adverse effects of systemic drugs in current clinical use are considered in detail.

BVS 530: Ocular Anatomy and Physiology I. (5 credit hours)

Four lecture hours and two laboratory hours per week. This course presents a systematic study of the anatomy and physiology of the eye. Lecture topics include the structure and function of the head and neck, ocular orbit, lids, lacrimal apparatus, conjunctiva, and cornea. Topics are approached from a gross anatomical, physiological, histological, and embryological perspective within the scope of contemporary primary care optometric practice.

BVS 531: Ocular Anatomy and Physiology II. (3 credit hours)

Two lecture hours and two laboratory hours per week. This course presents a systematic study of the anatomy and physiology of the eye. Lecture topics include the structure and function of the uveal tract, intraocular fluids, lens, retina and optic nerve. Topics are approached from a gross anatomical, physiological, histological, and embryological perspective within the scope of contemporary primary care optometric practice.

BVS 540: Optics I. (5 credit hours)

Four lecture hours and two laboratory hours per week. This course is an introduction to the geometrical optics of prisms, mirrors and lenses. Emphasis is placed on the characteristics of optical images formed by these basic elements and their combinations. Applications of the subject matter to vision and clinical optometry are discussed.

BVS 541: Optics II. (5 credit hours)

Four lecture hours and two laboratory hours per week. This course presents advanced topics in geometrical optics and an introduction to physical optics. Of primary interest are optical instruments and their properties, chromatic and monochromatic aberrations, interference, diffraction and polarization. Applications to vision science and clinical optometry are discussed.

BVS 542: Ophthalmic Optics I. (3 credit hours)

Two lecture hours and two laboratory hours per week. This introductory course in ophthalmic prescription measurement includes the use of instruments to design and measure spherical and cylindrical lens powers, as well as the determination of surface powers and base curves. The course emphasizes the basic calculation principles and use of ophthalmic lens measuring devices.

BVS 550: Eye Movements. (4.25 credit hours)

Three and one-half lecture hours and one and one-half laboratory hours per week. Eye movements are described with an emphasis on their functional characteristics. The anatomy and physiology of the extraocular muscles and the various neural pathways serving eye movements are presented within a framework of the functions they serve. Emphasis is placed on the basic oculomotor kinematics that will be necessary for clinical interpretation of eye movement disorders. Classes of eye movements that are considered in detail include vestibulo-ocular and optokinetic eye movements, pursuits, saccades, vergence, fixational eye movements and reading eye movements.

BVS 551: Visual Optics. (4 credit hours)

Three and one-half lecture hours and one laboratory hour per week. The eye is studied as the physiological optical element of the visual system. The optical components of the eye are discussed in terms of their geometrical, physical, physiological, psychophysical and optical properties. The eye is considered as an image-forming mechanism, where each component contributes to the nature and quality of the retinal image. The relationship between optics and visual performance is discussed, including the effects of ametropias and oculomotor systems on vision.

BVS 552: Visual Psychophysics. (4.25 credit hours)

Three and one-half lecture hours and one and one-half laboratory hours per week. This course is concerned with the study of visual stimuli and the response they evoke in the human organism. Included are the principles of photometry and radiometry as well as topics related to the visual response to light stimuli such as intensity discrimination, light and dark adaptation, visual acuity and the psychophysical methods used to investigate these aspects of the human visual system.

BVS 616/617/618: Pharmacology II/III/IV. (2 credit hours/2 credit hours/2 credit hours)

This course presents the pharmacology of systemic and ocular drugs used for the prevention, diagnosis and treatment of diseases. The pharmacological actions, mechanisms, clinical applications and potential adverse effects of systemic drugs that are important to optometrists are discussed in detail.

BVS 640: Ophthalmic Optics II. (3 credit hours)

Two lecture hours and two laboratory hours per week. This course presents the optical principles and concepts of ophthalmic lens parameters and characteristics including lens thickness, impact resistance, multifocal design, absorptive tints and coatings, lens power effectivity and lens magnification. Clinical applications of specific lens designs for occupational use and for compensation of prismatic imbalance are also discussed. The laboratory includes instruction in the fitting and adjusting of ophthalmic frames and eyewear.

BVS 650: Sensory Vision. (4.25 credit hours)

Three and one-half lecture hours and one and one-half laboratory hours per week. This course emphasizes the fundamentals of color vision and contrast sensitivity (spatial and temporal). Additionally, the differences in the vision function in the infant and geriatric visual systems are discussed with application to clinical care. The subject matter is explored both from the basic anatomical and physiological mechanisms involved in these sensory processes, as well as the clinical tests and procedures used to evaluate them. Clinical proficiency in the diagnosis and management of color vision deficiencies, as well as contrast sensitivity testing is expected after successful completion of this course.

BVS 651: Binocular Vision and Space Perception. (3.5 credit hours)

Three lecture hours and two laboratory hours per week. This fundamental course in theoretical binocular vision discusses, in detail, topics such as physical and perceived space, the horopter, retinal correspondence, fusion, fixation disparity and stereopsis. Clinical relevancy of these fundamental concepts is emphasized. Additional topics concerned with visual perception will be presented including perception of size, visual direction and visual attention. Information processing theory will be used to develop a model for visual perception. Various clinical and visual phenomena including figure ground relationships, visual illusions and neurological deficits will be used to illustrate the model.

CLS 400: IPE Medical Spanish. (2 credit hours)

This interprofessional team-taught elective course is designed to develop and/or improve students' communication in clinical situations with patients whose native language is Spanish. The focus of the instruction will be on learning basic conversation skills in order to elicit clinical histories, conduct an examination, and give oral instructions to Spanish speaking patients. Students will also be exposed to pertinent information about Latino culture as it pertains to medical care. Students will participate in language tasks through listening and speaking.

CLS 401: IPE Medical Ethics. (1.5 credit hours)

This interprofessional team-taught course introduces ethical theory and presents case studies that are commonplace in clinical professional practice. The lecture sequence that includes scope of practice, ethical theories, state regulations and clinical examples is supplemented with student led group discussions of case studies using a problem-based learning format. Students examine and address issues by applying ethical theory and values to resolving situations that challenge practitioners. Ethical issues dealing with confidentiality, professional referrals, advertising, record keeping, informed consent and conflicts of interest are presented in class and discussion groups.

CLS 402: IPE Evidence-Based Practice. (2 credit hours)

Two lecture hours per week. The overall goal of this course is to prepare the future practitioner for lifelong learning in the profession. Principles of evidence-based medicine are presented to allow evaluation of literature and other media relative to diagnostic and therapeutic approaches in patient care. Included in the course material are fundamental concepts in sampling, study design, sample size and power estimates, bias, validity, confounding, hypothesis testing and an overview of data types and statistical tests appropriate for clinical studies. Quantitative epidemiology approaches are presented such as incidence, prevalence, relative risk and odds ratio to determine evaluation of patient risk relative to ocular conditions and the efficacy of potential therapeutic approaches.

CLS 403: IPE Population and Public Health. (2 credit hours)

This interprofessional team-taught course is designed to develop a foundational understanding of Public Health and its core functions of assessment, policy development and assurance. In addition the aim is to develop patient communication and educational skills for a culturally diverse patient population to address concepts of health promotion and disease prevention. Evidence-based recommendations for health promotion and disease prevention will be emphasized. Lectures, group activities, workshops, and simulations will be used to discuss and apply the concepts of disease prevention and health promotion.

CLS 404: IPE Interprofessional Case Conferences. (0.75 credit hour)

This interprofessional team-taught course introduces interprofessional collaboration, communication and teamwork through small group discussion of clinical cases that are well suited for all the health professions. Students will examine the clinical cases from their professional perspective and will learn from other health professions students about their professional roles and responsibilities within the context of the case studies. The course is facilitated by an interprofessional team of faculty members who will guide the small group discussions.

CLS 405: IPE Preventing Burnout in Healthcare Students and Student Providers: Wellness and Self-Care (1 credit hour)

One lecture hour per week. This is an IPE elective course aimed at preventing burnout. This course will provide a framework for establishing and maintaining a well-balanced life that includes self-care into the lives of health care students and student providers. At each session, you will complete the activities and reflect on how you feel as a result of your practice.

CLS 560: Clinical Methods I. (4.5 credit hours)

Three lecture hours and three laboratory hours per week. This course is the first in a series that presents the basic clinical tests and procedures comprising a comprehensive primary eye care examination. The content of this course includes the principles and clinical methods for entrance testing and clinical refraction. The laboratory provides demonstration and practice of these clinical methods.

CLS 561: Clinical Methods II. (4.5 credit hours)

Three lecture hours and three laboratory hours per week. This course is a continuation of Clinical Methods I and emphasizes the principles and clinical methods for patient interviewing, history taking, assessment of binocular vision and accommodation and selected ocular health procedures. The laboratory provides demonstration and practice of these clinical methods.

CLS 660A/660B: Ocular Health Procedures IA/IB. (3 credit hours/3 credit hours)

One and one-half lecture hours and three laboratory hours per week. This course presents basic procedures and techniques in ocular health assessment for the primary care optometrist. The principles, performance and interpretation of various health assessment procedures utilized in clinical practice are discussed. A systematic, problem-oriented approach to the diagnostic evaluation of the eye and neuro-visual system is emphasized. Standards of care and medico-legal issues in ocular health assessment are presented along with insurance codes and reimbursement guidelines. The laboratory provides experience in the use of these procedures, as well as the clinical utilization of pharmaceutical agents commonly used in primary care optometric practice. The laboratory requires that students actively participate as doctors and patients while learning these procedures.

CLS 661/662/665: Case Analysis and Prescribing I/II/III. (2 credit hours/2 credit hours/2 credit hours)

Two lecture hours per week. This course is designed to support the student's clinical decision making from the classroom to the clinic. Integration and application of knowledge is stressed in the formulation of a clinical diagnosis and management.The use of scientific principles and epidemiology to review patient history, and the formulation and testing of hypotheses to arrive at a clinical diagnosis and management is stressed. Students are taught the art and science of prescribing lenses and prisms for ametropias, presbyopia and binocular anomalies. Emphasis is placed on consideration of occupational, avocational and safety factors in determining a treatment and management plan.

CLS 663: Ocular Health Procedures II. (3.5 credit hours)

Two lecture hours and three laboratory hours per week. Clinical procedures used in the assessment, diagnosis, treatment and management of ocular disease, such as anterior segment eye disorders, retinal disease, the glaucomas and the ocular manifestations of systemic disease, are presented in this course. Emphasis is placed on the appropriate integration of the procedures in the ocular health examination. The laboratory solidifies the competence of the techniques utilized in the effective treatment and management of ocular disease.

CLS 664A/664B: Ocular Disease Diagnosis and Management IA/B. (2 credit hours/2 credit hours)

Two lecture hours per week. This course presents a comprehensive discussion of anterior segment diseases and disorders. Pathophysiology of ocular tissues is related to the disease processes to provide a strong understanding of the ocular disease presentation and patient symptoms. Clinical cases are presented to enhance student learning. Clinical and laboratory evaluation is discussed along with the diagnosis, treatment and management of anterior segment diseases. Current management strategies will emphasize the utilization of appropriate therapeutic agents and modalities for proper follow-up care. Selected readings help to emphasize current thoughts on treatment and management.

CLS 670: Cornea and Contact Lenses I. (4 credit hours)

Three lecture hours and two laboratory hours per week. The basic characteristics and design features of gas permeable contact lenses are presented. Topics addressed in this course include lens fabrication, verification and analysis, contact lens optics and fluorescein pattern interpretation. Approaches to fitting gas permeable contact lenses considering the contributions of corneal topography, refraction, over-refraction and tear lens calculations are demonstrated. Care of gas permeable contact lens patients and the anatomical and physiological changes associated with adaptation and long-term wear are discussed.

CLS 671: Cornea and Contact Lenses II. (3.5 credit hours)

Two lecture hours and three laboratory hours per week. Continuing applications of gas permeable contact lens fitting and management are presented, gas permeable lens modification, and gas permeable toric lens indications, optics and analysis are covered in both lecture and laboratory. Soft contact lens materials including silicone-hydrogels, soft contact lens fit assessment and patient management are taught. Management options for presbyopia with single vision and multifocal contact lenses are presented. Contact lens wear complications and management options are discussed. Contact lens prescribing strategies and patient cases are presented. Refractive surgery patient selection, available surgical procedures and co-management are discussed.

CLS 672: Management of Non-Strabismic Binocular Vision Conditions. (3.5 credit hours)

Two lecture hours and three laboratory hours per week. This course will cover the diagnosis and management of non-strabismic binocular vision conditions including anomalies of the vergence, accommodation and ocular motor systems. Lecture topics include the clinical evaluation, case analysis, diagnosis and management of these systems. A range of treatment options will be discussed, including lenses, prisms and vision therapy. Office-based vision therapy utilizing a sequential approach will be emphasized.

CLS 720/721: Clinical Medicine I/II (4 units/4 units)

Three lecture hours and two laboratory hours per week. This course provides the fundamental principles of general pathology and when applicable ocular implications and manifestations are highlighted. Topics of discussion include Cell Injury, Death, and Adaptation, Acute and Chronic Inflammation, Tissue Repair: Cell Regeneration, Fibrosis, and Wound Healing, Hemodynamic Disorders, Thrombosis, and Shock, Disorders of the Immune System, Genetic & Pediatric Diseases, Environmental Diseases, Neoplasia, General Pathology of Infectious Disease, Diseases of the Blood Vessels & the Heart, Hematopoietic & Lymphoid System, Respiratory System, Kidney and Its Collecting System, GI Tract & the Liver/ Biliary Tract, Pancreas & Diseases of the Endocrine, Musculoskeletal System, Nervous System, Skin, and Psychiatry. The laboratory portion concentrates on clinical procedures, diagnostic evaluation and treatment and management, and enables application of

those theories learned in lecture. The laboratory include: gross clinical observation with emphasis on head and neck, review of systems, medical case history taking, medication reconciliation, patient case presentation, headache history, systemic emergencies, and cardiovascular evaluation comprising of pulse, blood pressure, carotid bruits assessment, glucometry & HA1C Testing, epiluminescence microscopy, cranial nerve test & neurological screener, allergy testing, and lab testing.

CLS 722: Ophthalmic Lasers, Injections and Medical Diagnostics. (2.5 units)

Two lecture hours and one laboratory hour per week. The purpose of this course is for the student to become knowledgeable in the protocol of advanced complex diagnostic and therapeutic clinical procedures involving ocular disease conditions. Special emphasis is placed on the indications and procedural application of anterior and posterior segment lasers, neuro-imaging, diagnostic and therapeutic injections, laboratory evaluation of patients and emergency care.

CLS 723: Ophthalmic Surgery. (2.5 units)

One and one-half lecture hours per week and two laboratory hours per week. The purpose of this course is to present ophthalmic surgical procedures and advanced imaging techniques that are commonly encountered in practice. Special emphasis is placed on pre-operative patient selection, variations of surgical procedures and assessment of normal and complicated post-surgical outcomes. Ordering and interpretation of imaging techniques will also be presented.

CLS 760: Pediatric Optometry. (2 credit hours)

Two lecture hours per week. The diagnosis and management of common vision problems in young children requires an understanding of vision development, as well as the utilization of diagnostic procedures that are developmentally appropriate. This course provides diagnostic strategies for examining the infant, toddler and preschooler. Application of pediatric tests for special needs children is presented, as well as the implication of ocular health on normal visual development. Finally, management of common vision problems in the pediatric population is presented in a case discussion format.

CLS 762A: Ocular Disease Diagnosis and Management IIA. (3 credit hours)

Three lecture hours per week. The evaluation, diagnosis, treatment and management of diseases of the optic nerve and the glaucomas are presented. Emphasis is placed on understanding the disease process and the clinical presentation and appropriate use of diagnostic modalities, including new technologies. Therapeutic strategies emphasize medical and surgical management, co-management and follow-up care. Medico-legal issues, patient education and standards of care are presented including record keeping, coding and reimbursement guidelines.

CLS 762B: Ocular Disease Diagnosis and Management IIB. (2 credit hours)

Two lecture hours per week. This course series will detail the basic anatomy and physiology of posterior segment structures (vitreous, retina choroid) and then familiarize students with the pathophysiology, presentation, diagnosis, and clinical management of ocular diseases that manifest there. Ancillary testing important to managing these conditions such as spectral domain optical coherence tomography (SD-OCT), fundus auto-fluorescence (FAF), and fluorescein angiography (FANG) will also be introduced and reviewed, with an emphasis being placed on the structural and functional relationships of these tests.

CLS 763A: Ocular Disease Diagnosis and Management IIIA. (2 credit hours)

Two lecture hours per week. The course covers ocular complications associated with systemic disease. The lectures emphasize the diagnosis, treatment and management of the ocular sequela of systemic diseases as well as ocular signs that may preempt the onset of the systemic disease. Areas of emphasis include neurology, orbitopathy, endocrinology and connective tissue disorders.

CLS 763B: Ocular Disease Diagnosis and Management IIIB. (2 credit hours)

Two lecture hours per week. The course covers ocular complications associated with systemic disease. The lectures emphasize the diagnosis, treatment and management of the ocular sequela of systemic diseases as well as ocular signs that may preempt the onset of the systemic disease. Areas of emphasis include uveitic syndromes, rheumatology, AIDS and ocular emergencies. Optometric co-management with internal medicine and medical subspecialties is emphasized.

CLS 765: Ocular Disease Case Management. (1 credit hour)

Two discussion hours per week. The purpose of this course is to effectively integrate the information presented in the prior ocular disease courses. Utilizing an interactive, small group case discussion format, students will be able to enhance their abilities in proper differential diagnosis, testing protocol, treatment and management and patient education of conditions related to ocular disease.

CLS 770: Cornea and Contact Lenses III. (3.25 credit hours)

Three lecture hours per week and six laboratory hours per quarter. Advanced and more complex contact lens designs and fitting options are reviewed. Topics include management of astigmatism with gas permeable toric lenses and contact lens management of special corneal topographies such as those found with post-surgical corneas, post-traumatic corneas, keratoconus and orthokeratology patients. Large diameter and scleral contact lens indications and prescribing are covered. Contact lens care of pediatric patients is discussed. Myopia control including orthokeratology is presented. A description of corneal dystrophies and degenerations including contact lens options and treatment plans is included. Discussion of the physiologic impact of contact lenses on the cornea is presented in increased depth. Diagnosis, treatment and management of contact lens related complications in various lens wear modalities are described. Patient cases are presented to assist the student in applying their classroom knowledge to patient care. This course also includes the advanced topic of ocular prosthetics. The care, fitting and management of ocular prosthetic devices are presented and discussed. There is a hands-on laboratory covering the procedures and techniques used in fitting, creation and fabrication of various ocular prosthetic devices.

CLS 771: Vision, Perception and Learning. (4 credit hours)

Three lecture hours and two laboratory hours per week. The course will give the student a systematic approach for the diagnosis and management of Developmental Visual Information Processing disorders. The role of the optometrist as part of a multidisciplinary team in evaluating children with learning disabilities will be emphasized. The course will provide a review of child development, principles of standardized testing, learning disabilities and dyslexia. The purpose of the tests used in the DVIP profile will be discussed along with relating specific disorders to symptoms that are found in the case history. Finally, a sequential management plan for treating patients with DVIP dysfunction will be presented.

CLS 772: Strabismus and Amblyopia Diagnosis. (4.5 credit hours)

Three lecture hours and three laboratory hours per week. The evaluation of patients presenting with strabismus and/or amblyopia is discussed. A sequential examination strategy is presented with emphasis on the administration and interpretation of diagnostic testing procedures to arrive at an accurate diagnostic summary. Etiology, prevalence and characteristics of the more common types of strabismus and amblyopia are highlighted. Communication of prognostic and diagnostic outcomes with parents, patients and other health care professionals is discussed.

CLS 773: Strabismus and Amblyopia Management. (3 credit hours)

Three lecture hours per week. Clinical management of patients with strabismus and/or amblyopia is discussed. Sequential treatment programs, including the use of lenses, prisms, occlusion, active vision therapy and appropriate surgical referrals for prevalent types of strabismus and amblyopia are presented. Emphasis is placed on early treatment, prevention and elimination of anomalous sensorimotor fusion, as well as the reestablishment of efficient binocular vision.

CLS 774: Low Vision Rehabilitation. (4 credit hours)

Three lecture hours and two laboratory hours per week. The topics presented include the performance characteristics of optical and non-optical treatment options for the visually impaired; assessment, treatment and management of geriatric and visually impaired patients; development of a vision rehabilitation plan; the multidisciplinary team approach to rehabilitation; patient communication and education; management of special populations; and practice management considerations. The laboratory presents the performance characteristics and clinical application of optical and non-optical treatment options for visual impairment.

CLS 775: Cornea and Contact Lenses IV. (1.5 credit hours)

Two laboratory hours and two clinic hours per week. This course consists of contact lens seminars and grand rounds. The major topic areas for student discussions and grand rounds patient presentations include management of regular and irregular astigmatism, presbyopia, irregular corneas such as keratoconus and pellucid marginal degeneration, management of orthokeratology and post-surgical corneas as well as prosthetics and dry eye. This course is designed for students to present patient cases and to submit a written case report.

CLS 782: Health Promotion. (1 credit hour)

One lecture hour per week. The course provides students with an understanding of the optometrist's role in health promotion. Program planning, implementation and evaluation of health promotion activities are discussed. Students are given the opportunity to participate in the creation of a community-based project of their choosing to gain firsthand experience in public health optometry.

CLS 783/784: Business & Career Management I/II. (2 credit hours/1.5 credit hours)

Two lecture hours per week. This course provides learning experiences for students in financial planning and professional goals setting. Emphasis is placed on enhancing a student's interpersonal skills and professionalism as part of patient care, modern business principles, and clinico-legal aspects of record keeping, patient confidentiality, documentation, coding and billing, record release, and Americans with Disabilities Act issues are also covered. The desired outcome of the course is that the student will be able to select and excel in the best practice situation that meets his or her personal goals upon graduation.

CLE 590: Optometric Clinical Service I. (0.75 credit hour)

This introductory course is designed to present the basics of case history and clinical decision-making in a problem-based learning curriculum. Interns also participate in clinical observations to gain an understanding of direct patient care in an academic setting.

CLE 690: Optometric Clinical Service III. (0.75 credit hour)

Three clinic hours per week. This course is designed to provide practical, clinical experience within Ketchum Health and external programs. Students gain clinical experience through clinical proficiencies and direct patient care under the supervision of licensed optometrists within the Primary Care Service.

CLE 691: Optometric Clinical Service IV. (1 credit hour)

Four clinic hours per week. Student interns will provide comprehensive primary care examinations to the limits of their education under the direct supervision of faculty preceptors at Ketchum Health. Student interns provide primary vision care utilizing all procedures learned in the preceding pre-clinical courses.

CLE 692: Optometric Clinical Service V. (1 credit hour)

Four clinic hours per week. Student interns are assigned to the Primary Care Service in Ketchum Health to conduct full-scope comprehensive eye examinations under the direct supervision faculty preceptors. Additionally, optical dispensing experiences and observations in other clinic services will prepare students for their multi-disciplinary summer internship.

CLE 790: Optometric Clinical Service VI. (3.5 credit hours)

Fourteen clinic hours per week. Student interns are assigned to patient care at Ketchum Health. Emphasis is placed on optometric examination skills and the utilization of problem-oriented records in all services. Demonstrations of differential diagnostic treatment and management techniques in ocular disease and special testing methods are provided. Diagnostic and therapeutic pharmaceutical agents are utilized in all clinical services under the direct supervision of licensed optometric faculty and/or board-certified ophthalmologists. Completion of a certified course in cardiopulmonary resuscitation is required during this quarter.

CLE 791: Optometric Clinical Services VII. (3.5 credit hours)

Fourteen clinic hours per week. Student interns are assigned to patient care at Ketchum Health. Emphasis is placed on the use of the problem-oriented examination and technical proficiency in evaluating the visual system. Diagnostic and therapeutic pharmaceutical agents are utilized in all clinical services under the direct supervision of licensed optometric faculty and/or board-certified ophthalmologists.

CLE 792: Optometric Clinical Service VIII. (3.5 credit hours)

Fourteen clinic hours per week. Student interns are assigned to patient care at Ketchum Health. Emphasis is placed on the use of the problem-oriented examination and technical proficiency in evaluating the visual system. Diagnostic and therapeutic pharmaceutical agents are utilized in all clinical services under the direct supervision of licensed optometric faculty and/or board-certified ophthalmologists.

CLE 793: Optometric Clinical Service IX. (3.5 credit hours)

Fourteen clinic hours per week. Student interns are assigned to patient care at Ketchum Health. Emphasis is placed on differential diagnosis of visual and ocular conditions, case analysis, recommendations for treatment, management, continuing care and referral criteria. Diagnostic and therapeutic pharmaceutical agents are utilized in all clinical services under the direct supervision of licensed optometric faculty and/or board-certified ophthalmologists.

CLE 890: Clinical Seminars. (4 credit hours)

Forty seminar hours per year. This seminar series is presented as a weekly program during each clinic rotation at Ketchum Health. The seminars highlight patient care topics including, but not limited to primary care, contact lenses, vision therapy, low vision rehabilitation, ocular therapeutics, practice management and career preparation. Basic science and clinical science concepts are integrated within the context of these topics. The format of the seminar program includes lectures, workshops, laboratories, grand rounds, demonstrations and small group discussions.

CLE 891: Optometric Clinical Service X. (12 credit hours)

Forty-eight clinic hours per week for a twelve-week rotation. Student interns continue outpatient care assignments in the Primary Care, Optical, Cornea and Contact Lenses, Pediatric Optometry, Vision Therapy, Low Vision Rehabilitation and Chronic Care, Special Testing and Ophthalmology Consultation Services at Ketchum Health. Emphasis is placed on differential diagnosis of eye conditions, case analysis, treatment, patient management and efficient problem-solving skills. Quality assurance by record review and direct patient care experience is emphasized. Diagnostic and therapeutic pharmaceutical agents are utilized in all clinical services under the direct supervision of licensed optometric faculty and/or board-certified ophthalmologists. Students also participate in school screening programs and rotate through specialty clinical practices.

CLE 892: Outreach Clinical Service I. (12 credit hours)

Forty-eight clinic hours per week in the off-campus Outreach Clinical program.

CLE 893: Outreach Clinical Service II. (12 credit hours)

Forty-eight clinic hours per week in the off-campus Outreach Clinical program.

CLE 894: Outreach Clinical Service III. (12 credit hours)

Forty-eight clinic hours per week in the off-campus Outreach Clinical program.

The fourth professional year is designed to promote continued development of the student's emerging clinical problem-solving abilities. The focus is on higher order cognitive thought processing such as analysis and evaluation, rather than basic levels of knowledge and comprehension. The instruction material is designed to advance the student's content knowledge beyond the first three years through challenging patient care problems that highlight or emphasize differential diagnosis, management decisions, referral decisions and follow-up, as well as address newer techniques and procedures for diagnosis and management. The outreach clinical programs provide students with comprehensive clinical education in the diagnosis, management and treatment of conditions of the visual system. Patient groups served are diverse in age, race, culture, socio-economic level and health delivery systems. Patient care is provided in various settings including optometric and co-management centers; Department of Veterans Affairs centers; HMOs; military; public health and USPH Indian Health clinics; medical ambulatory clinics; community health centers; and general and specialty hospitals. Under direct supervision of licensed optometric faculty, students provide full-scope optometric care in specialty clinics. Interdisciplinary team training in vision rehabilitation and primary care educate students for the role of optometrists as vital members of the health care team. Advanced clinical instrumentation and both diagnostic and therapeutic pharmaceutical agents are utilized, in all clinical care settings, under the direct supervision of licensed optometric faculty and/or board-certified ophthalmologists.

To offer fourth-year students a wide variety of clinical educational experiences, SCCO has approximately 40 primary and 65 alternate outreach clinical program affiliations with various military, public health, Department of Veterans Affairs, low vision rehabilitation, developmental/pediatric clinics, co-management clinics, inter-professional clinics and private practices. The clinics are located throughout the U.S., with the majority located west of the Mississippi River, as well as international sites located in Japan. These clinical programs are operated in conjunction with a number of independent, local, state and federal agencies.

Students select their outreach assignments at the beginning of the third professional year, which allows for a full year of planning.

RESIDENCY PROGRAMS

The mission of the Department of Residency Programs of SCCO at MBKU is to establish, promote and support postgraduate residency training. Residency programs are uniquely designed to advance the intellectual knowledge and enhance the clinical expertise of residents through excellence in patient care, scholarly activity and research.

SCCO at MBKU has residency programs that cover the areas of Cornea & Contact Lenses, Low Vision Rehabilitation, Neuro-Optometry, Ocular Disease, Primary Care and Pediatric Optometry/Vision Therapy. There are currently 55 residency positions within 25 programs in the areas of health management organization, Indian Health Service, multi-disciplinary settings, private-practice settings, on-campus programs and Veteran's Affairs. For detailed information regarding residency programs, please visit our website: www.ketchum.edu/optometry/academics/residency-programs. These one-year accredited postdoctoral programs are focused in training our residents to attain advanced competencies through direct patient care with exceptional clinical management experiences, teaching opportunities, and didactic/scholarship activities. All programs are structured in accordance with the guidelines of the AOA's Accreditation Council on Optometric Education and are fully accredited or in the process for review. All residents receive a stipend, liability coverage and various benefits depending on the specific program.

SCHOLARSHIPS AND AWARDS

Each year more than 150 scholarships and awards totaling close to $400,000 are given to qualified optometry students at MBKU. Fall scholarships and spring awards recognize and honor students who have achieved excellence in academics, clinical skills, research, leadership and service or have financial need. Recipients of scholarships are determined by the SCCO Scholarship Committee, SCCO clinical faculty and SCCO Admissions personnel under the direction of the SCCO Assistant Dean for Student Affairs. Fall scholarships are available to students entering any of the four professional years of study at SCCO and are based on criteria given by the donors. All monetary scholarships are directly applied to the recipients' education expenses at the university.

Spring awards are primarily given to graduating fourth year students at SCCO and are chosen by the clinical faculty in each discipline on the basis of merit in their area as set forth by the award donor. These awards recognize the noteworthy achievements made by optometric interns.

Descriptions of individual scholarships and awards may be found by accessing the Tuition & Financial Aid page on the SCCO Admissions website by clicking this link: SCCO Scholarship Programs.

COMMENCEMENT AWARDS

Latinized honors are accorded to those students who have excelled scholastically on the following basis:

Summa Cum Laude 3.80 – 4.00

Magna Cum Laude 3.60 – 3.79

Cum Laude 3.40 – 3.59

MASTER OF SCIENCE IN VISION SCIENCE

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 five 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. Combined two-year Master of Science and residency program for individuals with an earned Doctor of Optometry degree.
5. 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 www.ketchum.edu/optometry/ms_in_vision_science, and a $75 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. Applicants who already hold the Doctor of Optometry degree must submit NBEO scores. Applicants interested in the combined residency and Master of Science in Vision Science program must have submitted an ORMS application.

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 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

2020-2021 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.

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.

Master of Science degree requirements

- Completion of the curriculum requirements.
- Completion of a minimum of 60 quarter-hours of graduate credit.
- A cumulative graduate grade point average of at least 3.00.
- Completion of the Master's research requirement, successful defense of the Master's thesis and submission of a final bound copy of the thesis. The paper must be of publication quality.

COURSES

Completion of the program requires a total of 60 credit hours of which 20 credit hours are from course work and 40 credit hours are from research thesis. A total of 14 credit hours are required from the core curriculum described below and an additional 6 credit hours are required from elective courses.

BVS 900: Special Topics. (1-4 credit hours)

Individual study and advanced topics in the vision sciences.

BVS 901: Teaching in the Vision Sciences. (2 credit hours)

Clinicians with additional scientific/research training (clinician-scientists) are invaluable to the growth of the vision field. In particular, such individuals can contribute greatly to higher education programs in optometry and vision science. A foundation in teaching and, those aspects specific to vision science, is critical to acquire for future success in academia. Teaching methodology can be broadly applied to both didactic and clinical courses. This course will be presented in seminar format with assigned readings and several practical assignments to assess whether the learning objectives have been met.

BVS 902: Biostatistics. (2 credit hours)

Statistics is an essential discipline in the field of research, important first in understanding the scientific literature relative to validity and appropriateness, and later to the conduct of the student's thesis project. A researcher needs to have a solid working knowledge of the various types of research data and how these were obtained, the distribution of those data, and formal hypothesis testing using those data to draw conclusions regarding the import of the findings. This course will examine the numerical and graphical representation of data, the concepts of sample size, data distributions and appropriate hypothesis testing, inferences regarding dependent and independent data, and parametric and non-parametric evaluation. A free statistical shareware, "R" software, will be used by the student to undertake sample problem analysis to further cement the understanding of the lecture concepts.

BVS 910: Ocular Anatomy and Physiology. (2 credit hours)

Knowledge of the anatomy and physiology of ocular structures is one of the requirements for not only the practice of optometry but also research in this field. This course will supplement the ocular anatomy and ocular physiology courses taught to all Optometry students and concentrate on areas which are most likely to be studied in optometric research. The course will require independent study and group discussion. Each student will prepare and conduct a literature review on an anatomic area and present it in a seminar format.

BVS 910A: Ocular Anatomy and Physiology. (4 credit hours)

Knowledge of the anatomy and physiology of ocular structures is one of the requirements for not only the practice of optometry but also research in this field. This course will review the basic ocular anatomy and ocular physiology material taught to all Optometry students and concentrate on areas which are most likely to be studied in optometric research. The course will require independent study and group discussion. Each student will prepare and conduct a literature review on an anatomic area and present it in a seminar format.

BVS 913: Current Topics in Tear Film and Dry Eye. (3 credit hours)

In recent years the tear film and ocular surface has been the subject of intense interest and research, due in part to the recognition that ocular surface disease is a common condition with major implications for sufferers' quality of life. This course will provide an overview of current knowledge relative to ocular surface and tear film structure and dynamics, including what is currently known and unknown concerning tear composition and behavior. Clinical topics such as the factors that influence tear film stability and the mechanisms of corneal staining will be examined from current evidence to provide a translational understanding of basic mechanisms that influence the human ocular surface in health and disease. The course will be taught in a lecture format with hands-on sessions for demonstration and experience with instruments and techniques aimed at generating ocular surface and tear film information.

BVS 914: Vegetative Physiology of the Cornea. (3 credit hours)

This course will describe the anatomy and physiology of the normal cornea in depth. It will provide an understanding of the various diseases and dystrophies of the cornea from an etiological basis. The course will allow the student to understand the interplay between contact lens complications and normal/abnormal corneal physiology. This will be accomplished by reviewing the literature in this area.

BVS 920: Sensory Neuroscience. (2 credit hours)

Sensory neuroscience is a subfield of neuroscience which explores the anatomy and physiology of neurons that are part of sensory systems such as vision, hearing, and olfaction. This course will focus on vision. Visual neuroscience is the study of the visual system including the visual cortex. Its goals are to understand the neurophysiology of the visual system, and to understand how neural activity results in visual perception and behaviors that depend on vision.

BVS 920A: Sensory Neuroscience. (4 credit hours)

Sensory neuroscience is a subfield of neuroscience which explores the anatomy and physiology of neurons that are part of sensory systems such as vision, hearing, and olfaction. This course will focus on vision. Visual neuroscience is the study of the visual system including the visual cortex. Its goals are to understand the neurophysiology of the visual system, and to understand how neural activity results in visual perception and behaviors that depend on vision.

BVS 921: Color Vision. (3 credit hours)

Color vision is an active area of both clinical and basic science research. Clinical color vision research requires an understanding of more rigorous testing and research methods used in color vision studies. The course will be presented through a roughly equal division between lecture and laboratory, and will require presentation of a well developed experimental design proposal for a research study.

BVS 924: Neurophysiology of Amblyopia. (3 credit hours)

Our knowledge of the anatomy and physiology of the visual pathway has expanded greatly over the last few decades. This increase in knowledge has to a large extent been driven by investigations into the neural abnormalities resulting from amblyopia. Without a clear understanding of the neurophysiological basis of amblyopia, treatments for this condition cannot be developed. This course will supplement the Neurophysiology course taught to all SCCO students and concentrate on areas dealing with amblyopia. The course will require independent study and group discussion. Each student will prepare and conduct a literature review on an area of interest and present it in a seminar format.

BVS 940: Visual Optics. (2 credit hours)

The eye is studied as the physiological optical element of the visual system. The optical components of the eye are discussed in terms of their geometrical, physical, physiological, psychophysical and optical properties. The eye is considered as an image forming mechanism, where each component contributes to the nature and quality of the retinal image. The relationship between optics and visual performance is discussed, including the effects of ametropias and oculomotor systems on vision. Students will demonstrate their ability to search and evaluate the visual optics literature and to communicate effectively through writing and in small group discussions.

BVS 940A: Visual Optics. (4 credit hours)

Students in this course will learn about the optics of the human eye. They will rely on their present knowledge of geometrical and physical optics, and apply this knowledge to a study of the eye. They will understand how the optical characteristics of the eye relate to the performance of the visual system as a whole. Importantly, they will learn how the optics of the eye affects performance in everyday activities. They will learn about normal variation in the optical characteristics of the eye, and the optical consequences of various ocular conditions and clinical treatments and procedures. Students will be able to integrate what they know to find solutions to practical problems in vision. They will demonstrate their ability to search and evaluate the scientific literature, and to communicate effectively through writing and in small group discussions.

BVS 950: Sensory Processes and Perception. (2 credit hours)

The purpose of the course is the study of sensory processes which encompass three areas of vision function important to scientists: the perception of light, form and color. Students will examine spatial vision and temporal vision, the field of vision, the range of color vision and many other areas of current vision research. The course will be presented through a roughly equal division between lecture and laboratory, and will require presentation of a proposal for a research study related to the material in the course.

BVS 950A: Sensory Processes and Perception. (4 credit hours)

A foundation in vision science is rooted in the underpinnings of basic sensory processes. The study of sensory processes encompasses three areas of vision function important to scientists: the perception of light, form, and color. This knowledge is routinely used by vision scientists when conducting research studies examining spatial vision and temporal vision, the field of vision, the range of color vision, and many other areas of current vision research. The course will be presented through a roughly equal division between lecture and laboratory, and will require presentation of a proposal for a research study related to the material in the course.

BVS 951: Psychophysical Methods and Experimental Design. (4 credit hours)

The purpose of this course is to provide a framework into which study methodologies are executed. Content of the course includes photometry and luminance calibration, signal detection theory, ROC analysis and systematic experimental design. The course will be presented through a roughly equal division between lecture and laboratory, and will require presentation of a well-developed experimental design proposal for a research study.

BVS 951A: Psychophysical Methods & Experimental Design. (4 credit hours)

A foundation in vision science is rooted in the underpinnings of the various methods and experimental designs used to answer the scientific questions that are asked. The psychophysical methodology/approach is the historical root of vision science. It often precedes, and often drives, the neurophysiological studies that seek to resolve and/or explain the psychophysical findings. Knowledge of the general methods/designs used in psychophysical based research serves to provide a framework into which study methodologies are executed within. The course will be presented through a roughly equal division between lecture and laboratory, and will require presentation of a well-developed experimental design proposal for a research study.

BVS 952: Ethics in Research. (2 credit hours)

Through reading, discussion and writing, students will gain sensitivity for and knowledge of social ethics and the social context of scientific research. They will have knowledge of those elements of ethics, good scientific practice and law that are essential to perform research in the biomedical disciplines, with or without human subjects. They will have knowledge and skills to develop and implement effective, ethical research projects. The course content is organized in three strands: an introduction to ethics, the human subject and research integrity.

BVS 957: Accommodation. (3 credit hours)

Human ocular accommodation is studied from a functional viewpoint, with an aim of understanding its role in daily life. Accommodation is introduced by way of J. J. Gibson's question of how depth is extracted from retinal images. Empirical data on the nature of the steady state and dynamic characteristics of accommodation are reviewed. Then, the stimuli to accommodation are studied within Heath's system of operational classification. Various external and internal factors in the accommodation response are investigated. The development of accommodation in infancy and childhood, and its normal decline with age (presbyopia), are studied. Theories of the ocular mechanism of accommodation are studied, including geometrical-optical and physical models of the crystalline lens in accommodation. Control system approaches to accommodation are introduced. The synkinesis between accommodation and vergence is discussed. The nature and causes of presbyopia and other accommodative anomalies are studied. Procedures and apparatus for measuring accommodation are studied, with opportunity to design and implement simple accommodation experiments with two common instruments.

BVS 959: Vision and Reading. (3 credit hours)

This course will provide an integrative approach to investigating associations between vision and reading. The first part of the course will review the basic processes that are involved in reading and learning to read. The next part of the course will investigate how specific vision processes are involved in reading. This includes contrast sensitivity, temporal processing, fixation disparity, and span of recognition. Finally, clinical approaches to analyze the relationship between vision and reading will be discussed.

BVS 960: Research Thesis. (variable credits)

The Master of Science in Vision Science at the SCCO emphasizes the development and execution of an original vision research project. Each student must write a paper based on the student's research activities. The paper must be of publication quality. A Master's thesis describing this project is required for completion of the program and will be reviewed by a Thesis Committee. Time spent planning, carrying out the research project, data analysis and writing the thesis will be assigned BVS 960. This can be from 1-12 credit hours per quarter. Total minimum credit hours required for the thesis is 40 credit hours. This also requires a defense of the thesis.

Elective courses available:

Number	Course Title	Credit hours per Quarter
BVS 911	Vegetative Physiology of the Eye	3
BVS 912	Visual Physiology of the Eye	3
BVS 913	Current Topics in Tear Film & Dry Eye	3
BVS 914	Vegetative Physiology of the Cornea	3
BVS 920	Sensory Neuroscience	4
BVS 921	Color Vision	3
BVS 922	Lateral Geniculate Nucleus & Cortex	3
BVS 923	Receptors & Cell Signaling Pathways	3
BVS 924	Neurophysiology of Amblyopia	3
BVS 930	Ocular Biochemistry	3
BVS 931	Ocular Pharmacology	3
BVS 932	Ocular Pathology	3
BVS 941	Optics of the Eye	3
BVS 953	Spatial-Temporal Processes	3
BVS 954	Ocular Motility	3
BVS 955	Binocular Vision	3
BVS 956	Visual Perception	3
BVS 957	Accommodation	3
BVS 958	Visual Development	3
BVS 959	Vision & Reading	3

MASTER OF SCIENCE IN CLINICAL OPTOMETRY

Overview

The Master of Science in Clinical Optometry is a joint degree with Eulji University in South Korea. This degree provides the educational foundation to further develop the clinical skills of South Korean optometrists. Students accepted into the program must reside in South Korea, hold a Bachelor of Optometry Degree, and be an optician license holder. Advancing clinical skills helps to support growth in optometric education in South Korea. Graduates are more prepared to expand the current scope of practice and clinical privileges for optometry.

The two-year cohort-based program includes four semesters of didactic instruction and a six-week clinical education capstone project. Education modules are delivered in a hybrid format with didactic courses taught by Eulji faculty in-person in South Korea and by MBKU faculty remotely. MBKU faculty travel to South Korea to deliver hands-on experiences in learning optometric procedures. The capstone is a clinical education externship in the United States where students experience direct patient care encounters. The program is approved by the Korean Ministry of Education and by the Western Association of Schools and Colleges (WASC) and requires 36.75 credit hours.

ADMISSIONS

This joint Master of Science in Clinical Optometry program seeks to admit students interested not only in furthering personal clinical knowledge and skills but in moving forward the scope of practice in South Korea. Admission is based on both academic and non-academic qualifications. Applications are screened by an admissions committee at Eulji University then forwarded to the admissions committee at SCCO. The required prerequisites are: current optician license holder, BS diploma in optometry, essay showing strong motivation/desire for the profession of optometry, letters of recommendation, and volunteer/work experiences. In addition, MS applicants must meet a minimum criteria on the Test of English for International Communication (TOEIC) exam which is administered by YBM Education in South Korea. Once reviewed, qualified applicants are invited to a personal video conference interview.

Applications can be obtained from the Office of International Optometry at SCCO or Eulji University. A $75 non-refundable application fee is required to be submitted to the Office of International Optometry at SCCO via Flywire. The application, letters of recommendation, personal statement, a current curriculum vitae, and TOEIC scores are all sent to the International Optometry office at Eulji University. Applications must be submitted by the end of the calendar year just prior to matriculation.

FINANCIAL INFORMATION

Tuition is paid to both MBKU and Eulji University, independently. The MBKU portion is paid directly by the student via Flywire, which calculates the current exchange rate and includes any service/exchange fees. The Academic Year for this program is March-December. Tuition is due at the start of each semester. For 2020 and 2021 the MBKU portion of tuition is $7,500 each semester, payable in March and September.

CURRICULUM

The purpose of the program aligns with the vision of MBKU to reimagine the future of health care education and advance global health care. SCCO, a recognized leader in Optometric Education, will support the development of optometric education in South Korea. This program aligns with developing clinical skills for optometrists.

The curriculum incorporates pedagogical methods to address cognitive (knowledge), affective (attitude) and psychomotor (skill) learning domains. Examples of this methodology include classroom module content, small group case-based learning, lab workshops, problem-based learning, and clinical experiences. Module content presented by MBKU faculty will include online distance learning in mainly asynchronous modality. Module content will be given in English. Student responses and written assignments will also be written in English. Written work will be expected to follow NLM (National Library of Medicine) writing style guides. Basic analysis of research studies, including statistics, is introduced in Applied Biomedical Science (EUL501) and continues throughout the courses where applicable.

COURSES

Completion of the program requires successfully passing 36.75 credit hours. The courses are as below:

EUL501: Applied Biomedical Science. (3 credit hours, taught online by MBKU faculty)
This course integrates a review and clinical applications of Biochemistry, Genetics, Immunology, and Microbiology. Infections of the eye are discussed in relation to techniques for laboratory isolation, culturing, and identification of the infectious agents.

EUL502: Ocular Pharmacology. (3 credit hours, taught online by MBKU faculty)

This fundamental course in pharmacology introduces the student to basic concepts of drug effects on body organs and systems, including the eye. The pharmacological actions, mechanisms, clinical applications, and potential adverse effects of systemic drugs in current clinical use are considered in detail. This course presents the pharmacology of drugs used for the prevention, diagnosis, and treatment of ocular diseases, and discussions of other drugs that may affect the eye.

EUL511: Advanced Visual Optics. (3 credit hours, taught by Eulji faculty in South Korea)

This course is a continuation of the ophthalmic optics courses from the 4 year program offered at Eulji University. The goals of this course would be to provide advanced discussions in optics, lens options, and patient prescribing options in unusual and difficult situations.

EUL521: Advanced Cornea & Contact Lens. (2 credit hours didactic/1 credit hour lab, taught by Eulji faculty in South Korea)
Continuing applications of gas permeable (GP) contact lens and soft contact lens fitting and management are presented. Contact lens wear complications and management options are discussed and prescribing strategies and patient management are discussed. Advanced contact lens topics, including scleral contact lenses, pediatric contact lenses, myopia control, and prosthetics are presented.

EUL551: Pediatrics. (2 credit hours, taught online by MBKU faculty)

The diagnosis and management of common vision problems in young children requires an understanding of vision development, as well as the utilization of diagnostic procedures that are developmentally appropriate. This course provides diagnostic strategies for examining the infant, toddler, and pre-schooler. Application of pediatric tests for special needs children is presented, as well as the implication of ocular health on normal visual development. Management of common vision problems in the pediatric population is presented in a case discussion format.

EUL571: Ocular Health Procedures I. (2.5 credit hours didactic, taught online by MBKU faculty and 0.5 credit hours lab, taught by MBKU faculty in South Korea)

This course presents basic procedures and techniques in ocular health assessment for the optometrist. The principles, performance, and interpretation of various health assessment procedures utilized in clinical practice are discussed. A systemic, problem-oriented approach to the diagnostic evaluation of the eye and neuro-visual system is emphasized. Standards of care and medico-legal issues in ocular health assessment are presented.

EUL631: Vision/Learning. (2 credit hours, taught online and in US by MBKU faculty)

The course will give the student a systematic approach for the diagnosis and management of developmental visual information processing (DVIP) disorders. The role of the optometrist as part of a multidisciplinary team in evaluating children with learning disabilities will be emphasized. The course will provide a review of child development principles of standardized testing, learning disabilities, and dyslexia.

EUL632: Non Strab VT; strab/amb VT. (2 credit hours didactic/1 credit hour lab, taught by Eulji faculty in South Korea)

This course will cover the diagnosis and management of non-strabismic binocular vision conditions including anomalies of the vergence, accommodation, and ocular motor systems. A range of treatment options will be discussed, including lenses, prisms, and vision therapy. Active vision therapy utilizing a sequential approach will be emphasized.

EUL641: Case discussions/presentations. (3 credit hours, taught by Eulji faculty in South Korea)

The purpose of this course is to effectively integrate the information presented in the prior clinically based courses. Utilizing an interactive, small group case discussion format, students will be able to enhance their abilities in proper differential diagnosis testing protocol, treatment and management, and patient education of conditions the practicing optometrist will encounter.

EUL661: Low Vision/Geriatric Optometry. (3 credit hours, taught online by MBKU faculty)

The course introduces the principles of vision rehabilitation with respect to the geriatric and visually impaired populations. The topics presented include the clinical characteristics of aging, etiology, and visual impairment, demographics, and psychosocial factors of geriatric and visually impaired patients, the case history and clinical examination of these patients, and optics of treatment options for the visually impaired. Also discussed are the performance characteristics of optical and non-optical treatment options for the visually impaired; assessment, treatment, and management of geriatric and visually impaired patients; development of a vision rehabilitation plan; the multidisciplinary team approach to rehabilitation; and patient communication and education.

EUL661A: Low Vision Geriatric Optometry Lab. (0.75 credit hours, taught in US by MBKU faculty)

The laboratory presents examination procedures and techniques utilized for geriatric and visually impaired patients in traditional and non-traditional settings; motility procedures; geriatric case management; and an introduction to rehabilitation optics and optical systems for visual impairment. The performance characteristics and clinical application of optical and non-optical treatment options for visual impairment are presented.

EUL672: Topics in Ocular Disease. (3 credit hours, taught online by MBKU faculty)

This course presents a comprehensive discussion of anterior segment diseases and disorders, posterior segment diseases and disorders, and systemic disorders affecting the eye. Pathophysiology of ocular tissues is related to the disease processes to provide a strong understanding of the ocular disease presentation and patient symptomatology. Clinical and laboratory evaluation is discussed along with the diagnosis, treatment, and management of ocular diseases. Current management strategies will emphasize the utilization of appropriate therapeutic agents and modalities for proper follow-up care. Selected readings help to emphasize current thoughts on treatment and management. Emphasis is placed on clinical presentation and appropriate use of diagnostic modalities, including new technologies. Therapeutic strategies emphasize medical and surgical management, co-management, and follow-up care.

EUL742: Capstone: Clinical Education. (4.5 credit hours, taught in US by MBKU faculty)

As a capstone, practical application of the clinical skills taught in prior courses in preparation for clinical practice. Students will conduct eye examinations under the direct supervision of expert clinical faculty. Opportunities for the clinical education experiences will be at selected clinical settings in the United States. There will be exposure to primary care, ocular disease, contact lenses, vision therapy and pediatrics, low vision, optical, specialty clinics, ophthalmology, and grand rounds.

EUL772A: Ocular Health Procedures II Lab. (0.5 credit hours, taught in US by MBKU faculty)

The laboratory provides experience in the use of the procedures taught in lecture, as well as the clinical utilization of pharmaceutical agents commonly used in primary care optometric practice. The laboratory requires that students actively participate as doctors and patients while learning these procedures.

Students will need to enter the U.S. under an F-1 visa during the final semester of the program. Expenses incurred in the application process are the responsibility of the student and students should allow sufficient time for processing. As a condition for issuing the visa students are required to provide proof of adequate funds to cover all fees and expenses for the final semester. All travel and housing arrangements are the responsibility of the student.

Degree conferral will be in December following successful completion of all requirements but students may participate in the Commencement ceremonies in May of the following year.

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PHYSICIAN ASSISTANT STUDIES

MASTER OF MEDICAL SCIENCE

Mission

Our mission is to educate individuals to become compassionate Physician Assistants who provide the highest quality health care in a collaborative environment, are dedicated to their communities, and advance the PA profession.

Our Values

Integrity

We value integrity and professionalism by modeling honesty, thoughtfulness, and consistency in our words and actions.

Compassion

We value the dignity of our patients and their families and recognize compassion must be a cornerstone of our professional interactions.

Respect

We value the highest level of respect by advocating the virtue of inclusion while embracing the differences within communities where we serve, work and teach.

Service

We value service for humanity and are committed to the welfare of others.

Excellence

We value the pursuit of excellence as a standard of quality for the PA profession.

Lifelong Learning

We value lifelong learning as an essential component of quality education and ongoing evidence-based medical care.

PROGRAM OVERVIEW

Marshall B. Ketchum University provides the highest quality PA education through excellence in teaching, patient care, research and public service.

The College of Health Sciences' School of Physician Assistant Studies offers a 27-month, post-baccalaureate program leading to the degree of Master of Medical Science. The class size is 40 students.

The didactic phase of the PA curriculum provides the foundation for clinical practice with instruction in applied medical sciences, patient assessment, clinical medicine and pharmacotherapeutics. The curriculum is organized into systems-based modules which incorporate anatomy, physiology, pathophysiology, clinical medicine, clinical skills, patient assessment, diagnostic testing, and pharmacotherapeutics taught in an organized and integrated sequence with a strong emphasis on active learning. Other courses include medical ethics, PA professional practice issues, evidence-based practice, and population and public health. Students will also participate in interprofessional education courses, and will experience supervised patient interactions.

The clinical phase of the PA curriculum focuses on direct patient care in various clinics, hospitals and health centers. The program offers a vast array of clinical opportunities with diverse and challenging patient encounters. In order to graduate from the School of Physician Assistant Studies Master of Medical Science Program, a student must complete and pass each course, clinical rotation, Masters Capstone Project, and multi-faceted summative evaluation.

The Master's Capstone Project involves two components: 1) teams of 3-4 students conduct a review of literature and needs analysis in order to identify a population healthcare need. The students then develop and implement a project that addresses the healthcare need. 2) Students develop a scholarly poster and presentation that meets national and/or state conference standards.

ADMISSIONS

The School of Physician Assistant Studies is committed to accepting a diverse group of qualified individuals from a variety of backgrounds and experiences in accordance with MBKU's nondiscrimination policy. Each application is reviewed and the merits are considered individually. Additional consideration is given to applicants with volunteer community service or military experience (verifiable by DD-214), or applicants in the Pre-Health Professions Linkage programs at Cal State Fullerton, Cal State Long Beach or Cal State Los Angeles.

We do not accept previous experience or medical training for advanced placement in the Master of Medical Science program. All students are expected to complete all didactic and clinical elements of the program. The School of Physician Assistant Studies does not permit students to matriculate on a part-time basis, nor does the curriculum lend itself to an accelerated learning schedule.

Criteria

Technical Standards

PAs must have the knowledge and skills to practice in a variety of clinical situations and to render a wide spectrum of care based on the patient's needs. In addition to academic achievements, exam results and faculty recommendations, PA students must possess the physical, emotional and behavioral capabilities requisite for the practice of medicine as a PA. In order to successfully complete the PA program, students must demonstrate proficiency in academic and clinical activities with regard to the competencies described below.

Observation

Candidates and PA students must have sufficient sensory capacity to observe in the classroom, the laboratory, the outpatient setting and at the patient's bedside. Sensory skills adequate to perform a physical examination are required including functional vision, hearing, smell and tactile sensation. All these senses must be adequate to observe a patient's condition and to accurately elicit information through procedures regularly required in a physical examination, such as inspection, auscultation, percussion and palpation.

Communication

Candidates and PA students must be able to:

- Communicate effectively and sensitively with patients and others in both academic and healthcare settings.
- Speak clearly.
- Communicate effectively and efficiently in oral and written English with faculty and staff, patients and all members of the health care team. Communication includes not only speech, but also reading and writing skills.
- Demonstrate reading skills at a level sufficient to accomplish curricular requirements, provide clinical care for patients and complete appropriate medical records, documents and plans according to protocol in a thorough and timely manner.
- Perceive and describe changes in mood, posture, activity and interpret non-verbal communication signs.

Motor coordination and function

Candidates and PA students are required to possess motor skills sufficient to directly perform palpation, percussion, auscultation and other basic diagnostic procedures; and execute motor movements reasonably required to provide basic medical care and emergency care to patients, including but not limited to:

- Cardiopulmonary resuscitation.
- Administration of intravenous medication.
- Application of pressure to stop hemorrhage.
- Opening of obstructed airways.
- Suturing of simple wounds.
- Performance of simple obstetrical maneuvers.
- Negotiating patient care environments and mobility between settings, such as clinic, classroom, laboratory and hospital.
- Maintaining sufficient physical stamina to complete the rigorous course of didactic and clinical study. Long periods of sitting, standing or moving are required in classroom, laboratory and clinical settings.

Intellectual-conceptual, integrative and quantitative abilities

These abilities include measurement, calculation, reasoning, analysis and synthesis. Problem solving, the critical skill demanded of PAs, requires all of these intellectual abilities. Candidates and PA students must be able to:

- Interpret dimensional relationships and understand the spatial relationships of anatomical structures.
- Search, read and interpret medical literature.

The ability to incorporate new information from peers, teachers and the medical literature in formulating diagnoses and plans is essential. To complete the PA program, candidates must be able to demonstrate proficiency of these skills and the ability to use them together in a timely fashion during medical problem-solving and patient care.

Behavioral and social attributes

Compassion, integrity, ethical standards, concern for others, interpersonal skills and motivation are all personal qualities important to providing compassionate and quality patient care.

Candidates and PA students must:

- Demonstrate the maturity and emotional stability required for full use of their intellectual abilities.
- Accept responsibility for learning, exercising good judgment and promptly completing all responsibilities attendant to the diagnosis and care of patients.
- Understand the legal and ethical aspects of the practice of medicine and function within both the law and ethical standards of the medical profession.
- Interact with patients, their families and health care personnel in a courteous, professional and respectful manner.
- Tolerate physically taxing workloads and long work hours, to function effectively under stress and to display flexibility and adaptability to changing environments.
- Contribute to collaborative, constructive learning environments; accept constructive feedback from others; and take personal responsibility for making appropriate positive changes.

It is our experience that a number of individuals with disabilities, as defined by Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, are qualified to study and work as health care professionals and scientists with the use of reasonable accommodations. To be qualified for health sciences programs at MBKU those individuals must be able to meet both our academic standards and the technical standards, with reasonable accommodations if necessary.

For further information regarding services and resources for students with disabilities and/or to request accommodations, please contact the Office for Student Affairs.

Prerequisites

Although we do not have a minimum requirement, we recommend that applicants possess a minimum of the following:

- Overall GPA of 3.0
- Science GPA of 3.0
- 1000 hours of verifiable, direct, hands-on patient care experience.

Degree Prerequisite

A baccalaureate degree from a regionally accredited college or university, or an equivalent institution as determined by Marshall B. Ketchum University, is required for admission.

Applicants educated outside the U.S. must utilize a transcript evaluation service to verify their degree and course work. The academic record must show credits and grades equivalent to those given by U.S. institutions of higher learning.

Coursework Prerequisites

The following courses must be completed at a regionally accredited institution in the U.S., with a grade of “C” or better and are the minimum requirements for all applicants. A "Pass" grade will also be accepted.

12 semester or 16 quarter credit hours of Biological Science courses which must include:

- Microbiology w/ lab
- Human Anatomy w/lab (Must be taken in the last 7 years)
- Human Physiology w/lab (Must be taken in the last 7 years)
- Biological sciences, any area

One course (3 semester or 4 quarter credit hours) of each of the following:

- Biochemistry or Organic Chemistry
- Statistics
- General Psychology
- Genetics (no lab required)

Advanced Placement (AP) credits will be accepted for Psychology and Statistics.

All prerequisites must be completed at a college or university accredited by one of the U.S. regional accrediting associations. Please see Accrediting Institutions for a list of those associations. To verify a college or university accreditation, you are advised to visit their website.

Online Course Policy

MBKU accepts prerequisite lecture courses completed online through regionally accredited colleges or universities. Please see Accrediting Institutions for a list of those associations. No virtual labs are accepted however hands-on, take home labs will be accepted. If you have any questions or would like to verify that a specific lab meets our requirements, please email PAadmissions@ketchum.edu.

Requirements In Progress

Applicants may submit their CASPA application with two prerequisites in-progress. However, all admissions requirements, degree, and coursework prerequisites must be completed by December 31. Applicants should be aware; some universities have lag times in producing official transcripts which could impact their ability to be considered for admission.

Clinical Experience

Health care experiences will be considered on a case-by-case basis and dependent upon the quality of patient interaction.

Examples of preferred clinical experiences:

- Back Office Medical Assistant (MA)
- Certified Nurses' Aide
- Clinical Care Extender
- EMT (patient care hours only)
- Licensed Vocational Nurse
- Military medic or corpsman
- Occupational Therapist Aide
- Paramedic
- Physical Therapy Aide
- Radiological Technician
- Registered Nurse
- Respiratory Therapist
- Scribe

Foreign Applicants

To be eligible to apply to MBKU, foreign/international applicants must fulfill these requirements:

1. You must have completed all the prerequisite courses in either the U.S. or Canada. Please note that even though you have taken the prerequisite courses as part of your undergrad degree in a foreign university, you will need to repeat the prerequisite courses at a college or university in the U.S. or Canada.
2. You must send all non-U.S./Canadian transcripts to CASPA (the centralized application service utilized by PA programs).
3. While the prerequisite courses are not accepted from a foreign university, the transcript to verify a degree and license is required. Applicants should have their foreign (Non U.S./Canadian) transcripts evaluated by one of the approved services and the evaluation forwarded to CASPA.
4. The TOEFL must be completed and official scores submitted to MBKU using the school's code: 4893.

Test Scores

Scores from the Graduate Records Examination (GRE) are not required. Applicants who have not earned a baccalaureate degree from a regionally-accredited institution must also submit official scores from the Test of English as a Foreign Language (TOEFL), regardless of the official language of the country in which the education took place or the predominant language of the degree-granting institution. Scores should be sent directly using Marshall B. Ketchum University Code 4893. Minimum scores are noted below:

Reading	22/30
Listening	22/30
Speaking	26/30
Writing	24/30

Advanced Placement

We do not accept previous experience or medical training for advanced placement in the PA program. All students are expected to complete all didactic and clinical elements of the program.

Procedures

All applicants to SPAS at MBKU must submit their application through the Centralized Application Service for Physician Assistants (CASPA). The website for the service is https://portal.caspaonline.org/. All applicants should review the information and instructions on the CASPA website for submitting transcripts and letters of recommendation. Applicants will only have to submit transcripts and letters of recommendation to CASPA, not to the individual schools and colleges.

Upon completion of the application, applicants may designate MBKU as a school to receive the application.

A "complete date" status is given when an application is e-submitted and all transcripts, payments, and at least three letters of reference have been received by CASPA and attached to the application. Documents should be sent to CASPA several weeks prior to this date to ensure items arrive before the above deadline. No exceptions will be considered. Applicants must have a CASPA application "complete date" on or before the November 1 deadline.

Letters of Recommendation

Three (3) letters of recommendation are required. Reference letters should not be from personal friends or family members. Letters of recommendation must be submitted directly to CASPA on or before November 1. It is strongly recommended that letters of recommendation include at least one from a clinician and one from someone the applicant has known for at least 6 months.

Process

Once the CASPA application is received by the admissions office, applicants will receive an email with a link granting access to the MBKU portal, my.ketchum.edu. Applicants must submit the non-refundable $75 supplemental application fee.

The number of applicants to SPAS at MBKU exceeds the number of available seats. Some applicants will not be admitted even though their academic records surpass the specified minimum recommendations and requirements. Our goal is to select students who are academically capable of completing the Master of Medical Science program and who also possess the personal attributes necessary to practice medicine as a PA.

The admissions process begins with a screening of each applicant's scholastic qualifications including college records and prerequisite completion. This is done in multiple steps. First is a screening of each applicant's degree and coursework prerequisites for admission. Only those applicants who have completed all of the required courses move to the second stage. Next, the applicants who have met all the required prerequisites are then reviewed for completion of their direct patient care experience. Third, applicants move to the next stage based on the totality of their GPA, academic qualifications, type and number of patient care experience, and any military experience.

Next, the applicant's personal qualifications (essay, letters of recommendation, honors, awards, extracurricular activities and community service, etc.) are evaluated and reviewed by members of the Admissions Committee, as the study and practice of a PA requires great responsibility, maturity, ethics, devotion, intellectual curiosity and social commitment.

Those who meet the academic, clinical and personal criteria of the preliminary screening may be considered for an interview with the School of PA Studies at MBKU.

Additionally, the interviewing team endeavors to appraise such personal qualities as communication skills, problem solving skills, interpersonal skills, emotional intelligence, maturity and career motivation. Applicants will interview with various members of SPAS faculty, practicing PAs from the community, members of the university administration and faculty members from other MBKU colleges. Applicants are invited to matriculate based on their total interview score and the number of available class seats.

Provisional acceptance is offered pending successful completion of a routine criminal background check.

Accepted applicants are required to submit a non-refundable matriculation fee of $1500 within two weeks of their acceptance. The full $1500 deposit will be credited to the Fall Quarter tuition upon their enrollment.

FINANCIAL INFORMATION

Tuition

2020–21 Tuition, Master of Medical Science program

	Summer Quarter	Fall Quarter	Winter Quarter	Spring Quarter	Total
1st-yr tuition	-0-	$12,745	$12,745	$12,745	$38,235
Matriculation credit (1st-yr)	-0-	-1,500	-0-	-0-	-1,500
Net tuition: 1st-yr	-0-	$11,245	$12,745	$12,745	$36,735
Net tuition: 2nd-yr	$12,745	$12,745	$12,745	$12,745	$50,980
Net tuition: 3rd-yr	$12,745	$12,745	-0-	-0-	$25,490

Tuition for returning students enrolled less than full time

Tuition (less than full time) per credit hour……$665

Audit per credit hour……....$100

Fees

Mandatory Equipment and Materials fee…..……...$255/quarter

Annual Student Association fee……..$108

Clinic Fee……$500/quarter

Class Account fee……..$45

Graduation fee (charged once in the final year)……..$175

Annual Parking fee (optional)……$300

Other costs

Cost estimates for books, instruments, equipment and supplies for the 27-month program is $3,949.

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

CURRICULUM

The didactic phase of the PA curriculum provides the foundation for clinical practice with instruction in applied medical sciences, patient assessment, clinical medicine and pharmacotherapeutics. The curriculum is organized into systems-based modules which incorporate anatomy, physiology, pathophysiology, clinical medicine, clinical skills, patient assessment, diagnostic testing and pharmacotherapeutics and is taught in an organized and integrated sequence with a strong emphasis on critical thinking and active learning. Other courses include medical ethics, PA professional practice issues, population health and evidence-based practice. In addition, students learn procedures including: sterile technique, venipuncture, IV placement, injections, airway management and endotracheal intubation, point of care ultrasound, urinary bladder catheter insertion, casting and splinting, local anesthesia and wound management and closure. Students also participate in interprofessional education courses and will experience supervised and simulated patient interactions. Integration of the curriculum facilitates the development of knowledge that is relevant and meaningful to clinical practice and which is amenable to updating and development as a part of an ongoing process of lifelong learning. Students must successfully pass all first phase didactic academic requirements in order to progress to the second phase clinical rotation training.

The didactic Clinical Medicine modules include:

- Advanced study of human anatomy with 3-D human anatomy laboratories.
- Advanced study of physiology, pathology and pathophysiology concepts of disease.
- Study of the epidemiology and etiology of disease states.
- Eliciting, performing and documenting the medical history and physical exam.
- Selecting, interpreting and applying appropriate laboratory, imaging and other diagnostic tests.
- Advanced study of disease states including the development of a differential diagnosis, most likely diagnosis and prognosis of disease.
- Developing patient management skills related to the principles of pharmacology as they pertain to prescription and non-prescription therapeutic agents.
- Study of the behavioral health aspects of wellness and disease.
- Study of preventive health care, patient-centered healthcare, patient-centered education and health maintenance.
- Study of the clinical presentation of disease states across the lifespan.
- Identification and treatment of clinical emergencies.
- Study of current evidence-based healthcare principles.

The didactic foundation courses include the basic medical sciences, principles of genetics, and immunology. The courses are designed to prepare students for the advanced study of clinical medicine.

The didactic interprofessional education courses are collaborative courses that instruct students across the colleges about the principles of interprofessional practice and allow students to practice interprofessional teamwork and communication skills in a classroom and small group setting.

The didactic professional courses are designed to provide students with instruction in evidence based practice to include critical review of the medical literature; advanced study of the PA profession, medical ethics, public and population health, and employment issues.

COURSES

PAS 400: IPE Medical Spanish. (2 credit hours)

This interprofessional team-taught elective course is designed to develop and/or improve students' communication in clinical situations with patients whose native language is Spanish. The focus of the instruction will be on learning basic conversation skills in order to elicit clinical histories, conduct an examination, and give oral instructions to Spanish speaking patients. Students will also be exposed to pertinent information about Latino culture as it pertains to medical care. Students will participate in language tasks through listening and speaking.

PAS 401: IPE Medical Ethics. (1.5 credit hours)

This interprofessional team-taught course introduces ethical theory and presents case studies that are commonplace in clinical professional practice. The lecture sequence that includes scope of practice, ethical theories, state regulations and clinical examples is supplemented with student led group discussions of case studies using a problem-based learning format. Students examine and address issues by applying ethical theory and values to resolving situations that challenge practitioners. Ethical issues dealing with confidentiality, professional referrals, advertising, record keeping, informed consent and conflicts of interest are presented in class and discussion groups.

PAS 403: IPE Population and Public Health. (2 credit hours)

This interprofessional team-taught course is designed to develop a foundational understanding of Public Health and its core functions of assessment, policy development and assurance. In addition the aim is to develop patient communication and educational skills for a culturally diverse patient population to address concepts of health promotion and disease prevention. Evidence-based recommendations for health promotion and disease prevention will be emphasized. Lectures, group activities, workshops, and simulations will be used to discuss and apply the concepts of disease prevention and health promotion.

PAS 404: IPE Interprofessional Case Conferences. (0.75 credit hour)

This interprofessional team-taught course introduces interprofessional collaboration, communication and teamwork through small group discussion of clinical cases that are well suited for all the health professions. Students will examine the clinical cases from their professional perspective and will learn from other health professions students about their professional roles and responsibilities within the context of the case studies. The course is facilitated by an interprofessional team of faculty members who will guide the small group discussions.

PAS 405: IPE Preventing Burnout in Healthcare Students and Student Providers: Wellness and Self-Care. (1 credit hour)

One lecture hour per week. This is an IPE course aimed at preventing burnout. This course will provide a framework for establishing and maintaining a well-balanced life that includes self-care into the lives of health care students and student providers. At each session, you will complete the activities and reflect on how you feel as a result of your practice.

PAS 524: Fundamentals of Anatomy. (2 credit hours)

This course is designed to provide an introduction of anatomy within a clinical context to assist in developing spatial relationship skills with an emphasis on important anatomical landmarks relevant to physical exam, diagnosis and development of disease, and in the anatomical relationships of structures to each other. The PA student will learn the skills needed to recognize normal anatomy, normal anatomical variation and disease states. Lectures, 3-D anatomy tables, and a multimedia approach will be used to present the material.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 525: Applied Medical Science. (6 credit hours)

This course is designed to develop an understanding of physiology, pathology and pathophysiology concepts of disease as they pertain to each organ system. Lectures, case studies and a multimedia approach will be used to present the material.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 526: Infectious Disease & Immunology. (4 credit hours)

This course is designed to introduce students to the concepts of medical immunology and the principles of infectious diseases. After reviewing epidemiology, virulence and pathogenicity of selected organisms, pathophysiology, clinical presentation and general management of infectious disease states will be explored through lecture and case studies.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 527: Medical Genetics. (2 credit hours)

This course is designed to develop an understanding of the genetic concepts of disease as they pertain to each organ system. Lectures and a multimedia approach will be used to present the material.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 528: Clinical History. (2 credit hours)

This course is designed to develop the knowledge and skills required to elicit, perform and document the complete medical history and physical exam with use of appropriate equipment, proper exam techniques and accurate medical terminology. The course will provide an overview of the medical record as well as development of writing and oral presentation skills. History-taking, physical examination and documentation skills will be developed through lecture and structured small group laboratory exercises.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 529: Dermatology. (4 credit hours)

In-depth and integrated knowledge about dermatologic disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 530: Eye, ENT. (4 credit hours)

In-depth and integrated knowledge about ophthalmic and otorhinolaryngology disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 531: Evidence-Based Practice. (4 credit hours)

This course will focus on evidence-based practice methodology, to include the necessary skills to search and critically analyze the medical literature. Students will learn to analyze and interpret various types of clinical articles to develop proficiency in utilizing current, evidence based medicine to answer clinical questions relative to diagnosis and therapy. Instruction for this course will consist of lectures, structured faculty-led small group journal clubs and review sessions.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 532: Pulmonology. (4 credit hours)

In-depth and integrated knowledge about pulmonary disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 533: Cardiology. (6 credit hours)

In-depth and integrated knowledge about cardiac disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 534: Hematology. (4 credit hours)

In-depth and integrated knowledge about hematologic disease and oncologic processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 535: Nephrology. (4 credit hours)

In-depth and integrated knowledge about kidney disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 536: Endocrinology. (4 credit hours)

In-depth and integrated knowledge about diabetes and other endocrinologic disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 537: Men's Health. (2 credit hours)

In-depth and integrated knowledge about men's health and disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 538: Gastroenterology. (4 credit hours)

In-depth and integrated knowledge about gastroenterological disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 539: Orthopedics & Rheumatology. (6 credit hours)

In-depth and integrated knowledge about orthopedic and rheumatologic disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 540: Neurology. (6 credit hours)

In-depth and integrated knowledge about neurologic disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 541: Behavioral Health. (2 credit hours)

In-depth and integrated knowledge about behavioral health and disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 542: Women's Health. (6 credit hours)

In-depth and integrated knowledge about women's health and disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 543: Pediatrics. (4 credit hours)

In-depth and integrated knowledge about pediatric health and disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 544: Emergency Medicine. (6 credit hours)

In-depth and integrated knowledge about emergency medical conditions common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 545: Surgery. (4 credit hours)

In-depth and integrated knowledge about surgical conditions common to primary care practices. Instruction for this course will consist of knowledge about surgical principles as well as management of surgical patients.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 546: Hospital Medicine. (4 credit hours)

In-depth and integrated knowledge about the hospital management of conditions common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 547: Geriatrics. (2 credit hours)

In-depth and integrated knowledge about geriatric health and disease processes common to primary care practices. Instruction for this course will consist of lectures, case studies, problem-based learning, hands-on laboratory and practice sessions, as well as small group workshops.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 550: Introduction to the PA Profession. (2 credit hours)

This is a self-study course designed to prepare students for matriculation. Students examine the role of the PA in the context of the healthcare system, as well as issues pertaining to the PAs' practice of medicine. This course also includes a historical review of the PA profession and PA organizations. Students also take a medical terminology course during this time.

Prerequisites: Admission to the School of Physician Assistant Studies.

PAS 610: Graduate Seminar I. (2 credit hours)

This seminar occurs during the clinical phase and focuses on specific requirements for entering professional clinical practice. Professional practice issues will address PA Scope of Practice in California, laws and licensure regulation, preparing for, acquiring and maintaining national certification, patient risk management, medical-legal issues and medical malpractice. Through guided discussion in lecture and small seminar settings, students explore and discuss requirements and competencies for the PA profession. The student is evaluated with (1) a formative comprehensive written examination, (2) a formative application of clinical knowledge and skills examination in the form of an Objective Structured Clinical Examination (OSCE).

Prerequisites: Completion of the preclinical phase of the School of Physician Assistant Studies or program permission.

PAS 611: Graduate Seminar II. (2 credit hours)

This seminar occurs during the clinical phase and focuses on professional practice issues, as well as ensures students have met all the requisite knowledge and professional criteria for graduation. Students undergo a Summative Evaluation during this time to ensure they not only have acquired broad and specific clinical knowledge, but that they are able to apply these skills into the needed competencies for PA clinical practice. The student is evaluated with (1) a comprehensive written examination, (2) an application of clinical knowledge and skills examination in the form of an Objective Structured Clinical Examination (OSCE).

Prerequisites: Completion of the preclinical phase of the School of Physician Assistant Studies or program permission.

PAS 612: Clinical Preparatory. (6 credit hours)

This three-week clinical course provides the PA student with a comprehensive review of the didactic phase of training. Students engage in a number of activities designed to enhance their current clinical skills and didactic knowledge prior to beginning their clinical rotations.

Prerequisites: Completion of the preclinical phase of the School of Physician Assistant Studies or program permission.

PAS 551, 609, 613: Masters Capstone Project I, II, III. (9 credit hours in total)

This entails three courses spread across multiple quarters. Each course focuses on a particular area of the Masters Capstone Project, to allow the PA student to complete their required project under the guidance of a faculty advisor. In teams of three or four, students will identify a population healthcare need and develop and implement a project to mitigate the identified need. Students will use evidence-based principles to research the medical issue related to their community project. The student teams will prepare and present a professional poster on their topic prior to graduation.

Prerequisites: Admission to the School of Physician Assistant Studies.

The clinical phase of the PA curriculum focuses on direct patient care that offers students a vast array of clinical opportunities with diverse and challenging patient encounters. Prior to beginning their clinical rotations, students engage in a comprehensive review of the entire first phase of training, designed to enhance their clinical exam skills and didactic knowledge. During their clinical rotations, students train with board certified providers, across a number of different specialty areas, each averaging six weeks in length. Students are exposed to acute and chronic patient care needs across the lifespan in a variety of health care settings (i.e. emergency room, outpatient and inpatient settings, operating rooms, and long term care facilities). In order to graduate, students must successfully complete all clinical rotations, the Master's Capstone Project and Graduate Seminars, as well as Summative Examinations.

PAS 670: Medical Clinical Services I. (6 credit hours)

PAS 671: Medical Clinical Services II. (6 credit hours)

PAS 672: Medical Clinical Services III. (6 credit hours)

PAS 673: Medical Clinical Services IV. (6 credit hours)

PAS 674: Medical Clinical Services V. (6 credit hours)

PAS 675: Medical Clinical Services VI. (6 credit hours)

PAS 676: Medical Clinical Services VII. (6 credit hours)

PAS 677: Medical Clinical Services VIII. (6 credit hours)

Prerequisites: Completion of the preclinical phase of the School of Physician Assistant Studies or program permission.

PAS 699: Medical Clinical Services: COVID-19 (0 credit hour)

The Medical Clinical Services courses will include experiences in the following:

Behavioral Health

This clinical course will provide the PA student with a behavioral medicine experience in caring for ambulatory and/or hospitalized patients with behavioral and mental health conditions. The student will perform basic psychiatric evaluations, monitor medications and support the clinical management plan for patients. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Clinical Rotation Elective

This clinical course is selected by the student from a variety of surgical or medicine specialties, or subspecialties, such as Oncology, Endocrinology, Occupational Medicine, Hospitalist Medicine, etc. The student will be able to recognize conditions treated by these specialties and become aware of medical or surgical indications requiring referral to specialty care. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Emergency Medicine

This clinical course provides the PA student with experience in triage, evaluation and management of patients in the emergency department setting. The student will have the opportunity to learn skills necessary for appropriate triage, stabilization, evaluation, diagnosis and management of patients with traumatic injuries and acute medical and surgical illnesses, as well as management of lower acuity health disorders. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Surgery

This clinical course will provide the PA student with experience in the evaluation and management of surgical patients in the pre-operative, intra-operative and post-operative environments. The PA student will evaluate and participate directly in the care of surgical patients before, during and after their procedures. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Pediatrics

This clinical course will provide the PA student with experience in outpatient and/or in-patient management of pediatric patients. The student will have the opportunity to perform well-baby and child exams, problem-oriented exams, evaluate common pediatric illnesses and experience care of newborns, children and adolescents. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Family Medicine

This clinical course provides the PA student with experience in outpatient evaluation of pediatric and adult patients, including preventive medicine and acute and chronic illness. The Family Medicine and Primary Care clinical rotations may be done at the same clinical site. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Primary Care

This clinical course provides the PA student with experience in outpatient evaluation of primary care conditions, including preventive medicine and acute and chronic illness. The Family Medicine and Primary Care clinical rotations may be done at the same clinical site. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

Women's Health

This clinical course provides the PA student with experience in managing common gynecologic care and the maintenance of gynecologic health. Obstetric experience will include routine prenatal care. Students will gain experience in proper and professional communication with patients, patient families, physicians and an interdisciplinary team of healthcare professionals.

COLLEGE OF PHARMACY

DOCTOR OF PHARMACY

VISION STATEMENT

The College of Pharmacy at Marshall B. Ketchum University will be a recognized innovator and provider of distinctive, highest quality, evidence-based education, research, and collaborative pharmacy practice.

MISSION

The mission of MBKU COP is to educate individuals to become ethical and compassionate pharmacists who competently deliver patient-centric services in diverse environments and systems of healthcare, with a commitment to innovative scholarship.

PROGRAM OVERVIEW

It takes four academic years to complete the Doctor of Pharmacy program . The first year curriculum provides the foundation for professional practice with instruction on pharmaceutical and biomedical sciences, body systems and disease, epidemiology, public health, pharmaceutical self-care, pharmacy law and roles of the pharmacist. The curriculum teaches United States and global health care systems, interpersonal and interprofessional communications, pre-clinical laboratory skills, pharmacy practice skills and provides certifications in immunization and life support. Students will begin Introductory Pharmacy Practice Experiences courses (IPPE).

The second year curriculum continues to build on the foundation courses from year one with instruction on applied biomedical sciences, pharmacology, clinical medicine and pharmacotherapeutics. The curriculum teaches professional ethics, behavioral aspects of health, drug information, evidence-based practice, research methodology, biostatistics, pharmacokinetics and basics of laboratory medicine. Students continue with IPPE courses.

The third year curriculum continues with focused instruction on the principles of clinical medicine and pharmacotherapeutics. The curriculum incorporates biotechnology, pharmacogenomics, pharmacoeconomics, special populations and contains a skills lab for clinical and evidence-based reasoning and certification in medication therapy management. The curriculum includes a doctoral level capstone project and provides students an opportunity to take three didactic electives of their choice.

The fourth year, also known as the experiential year curriculum lists all the Advanced Pharmacy Practice Experience (APPE) courses. Students will also take APPE electives of their choice. The Case Conferences will consist of reflection sessions that discuss pertinent clinical areas through case studies and will provide a North American Pharmacist Licensure Examination (NAPLEX) preparatory course to assess NAPLEX readiness.

The degree of Doctor of Pharmacy will be conferred on students who are officially admitted to, and who satisfactorily complete the four-year professional curriculum in pharmacy. Satisfactory completion of the Doctor of Pharmacy program will academically qualify the graduate to apply for licensure in each of the 50 states.

ADMISSIONS

The College of Pharmacy is committed to accepting a diverse group of qualified individuals from a variety of backgrounds and experiences in accordance with MBKU’s nondiscrimination policy.

Criteria

The COP has an ethical responsibility for the safety of patients and to graduate candidates for pharmacy licensure who are competent and capable to meet the essential functions of pharmacy practice. The technical standards established by the college faculty require students to master the physical, cognitive and behavioral capabilities for successful admission, promotion and graduation. The Accreditation Council for Pharmacy Education requires U.S. colleges and schools of pharmacy to define the technical standards.

All students are held to the same academic and technical standards, with or without reasonable accommodation, to complete all aspects of the professional education program. Disclosure of disabilities is not required; however, students who fail to comply with the standards and do not seek accommodation are in jeopardy of academic failure and possible dismissal. The college

encourages consultation with the assistant dean of student affairs if a student feels the standards cannot be met. Students must be able to accomplish all of the following:

Observation

- Observe lectures, demonstrations, experiments and practice-based activities in the basic and pharmaceutical sciences.
- Observe physiologic and pharmacological demonstrations, evaluation of microbiological cultures and microscopic studies of organisms and tissues and in normal and pathological states.
- Observe a patient accurately at a distance and close at hand, noting verbal and nonverbal signals.
- Meet the specific vision-related requirements, such as read information on a computer screen, projected slides and overheads, read written and illustrated material and discriminate numbers and patterns associated with diagnostic and monitoring instruments and tests.
- Evaluate visible patient signs and symptoms for the purposes of monitoring drug therapy.

Communication

- Communicate effectively, sensitively and rapidly with patients and members of the health care team and convey a sense of compassion and empathy.
- Speak, listen, read and write in the English language.
- Effectively communicate with instructors and peers.
- Communicate with health care practitioners specifically in reviewing and recommending verbal and written drug therapy orders.
- Elicit information from patients, describe changes in mood, activity and posture and perceive nonverbal communications.
- Read and record observations and care plans legibly, efficiently and accurately.
- Complete forms or appropriately document activities according to directions in a complete and timely fashion.

Sensory and motor coordination or function

- Execute all aspects of processing multiple types of drug orders and compounding of medications.
- Engage in safe and aseptic handling of sterile preparations.
- Safely and effectively operate appropriate equipment, including but not limited to microscopes, computer keyboards, glucose monitors and peak flow meters.
- Execute motor movements reasonably required to participate in the general care and emergency treatment of patients.

Intellectual, conceptual, integrative and quantitative abilities

- Comprehend three-dimensional relationships and to understand the spatial relationships of structures.
- Solve problems involving measurement, memorization, calculation, reasoning, analysis, synthesis and evaluation rapidly in a multi-task setting.
- Synthesize knowledge and integrate the relevant aspects of a patient's history, physical findings and monitoring studies.
- Obtain, retrieve, evaluate and deliver information in an efficient and timely manner.
- Provide a reasonable explanation and analysis of the problem and determine when additional information is required.

Behavioral and social attributes

- Possess the emotional health required for full use of their intellectual abilities, the exercise of good judgment and the prompt and safe completion of all responsibilities.
- Adapt to change, to display flexibility and to learn to function in the face of uncertainties and stressful situations.
- Possess compassion, integrity, interpersonal skills, motivation, empathy, respect and concern for others.
- Comprehend the legal and ethical aspects of the practice of pharmacy and function within the guidelines established by the law and by the ethical standards of the pharmacy profession.
- Function effectively in situations of physical and emotional stress.
- Accept appropriate suggestions and criticism and, if necessary, respond by modification.
- Exercise good judgment and prompt completion of all responsibilities involved in the pharmaceutical care of patients in a sensitive and effective manner.
- Have the capacity to develop professional, mature, sensitive and effective relationships with patients.
- Develop the skills necessary to instruct and supervise technical personnel assisting with the delivery of pharmaceutical services.

It is our experience that a number of individuals with disabilities, as defined by Section 504 of the Rehabilitation Act and the Americans with Disabilities Act, are qualified to study and work as health care professionals and scientists with the use of reasonable accommodations. To be qualified for health sciences programs at MBKU those individuals must be able to meet both our academic standards and the technical standards, with or without reasonable accommodations.

For further information regarding services and resources for students with disabilities and/or to request accommodations, please contact the Office for Student Affairs.

Prerequisites

All requirements must be completed by the time of matriculation at MBKU.

A baccalaureate degree from a regionally accredited college or university, or an equivalent institution as determined by MBKU, is recommended for admission.

All prerequisite courses must be completed at a regionally accredited institution in the U.S. with a grade of "C" or better. Applicants educated outside the U.S. must utilize a transcript evaluation service to verify their degree and course work. The academic record must show credits and grades equivalent to those given by U.S. institutions of higher learning.

The following courses must be completed at a regionally accredited institution, in the U.S., with a grade of "C" or better prior to enrollment and are the minimum requirements for all applicants.

6 semester or 9 quarter credit hours of each of the following:

- General Biology (One year sequence, including laboratories)
- General Chemistry (One year sequence, including laboratories)
- Organic Chemistry (One year sequence, including laboratories)

3 semester or 4 quarter credit hours of each of the following:

- General or Medical Microbiology (Laboratory required)
- Human Anatomy (Laboratory required)
- Human Physiology (Laboratory required)
- Calculus (For science majors preferred)
- General Psychology
- Economics
- Behavioral or social science course
- Communication course

Additionally, 6 semester credit hours or 8 quarter credit hours

- English*
- Waived for students with a verified BA degree

Advanced Placement credits will be accepted for fulfillment of no more than the equivalent of one non-science course of the prerequisite.

The Pharmacy College Admission Test (PCAT) is not required for students with a bachelor's degree. Additional consideration will be given to those with community service, patient care, pharmacy and/or military experience.

Applicants who earned degrees from foreign institutions must also submit official scores from the Test of English as a Foreign Language, or TOEFL, regardless of the official language of the country in which the education took place or the predominant language of the degree-granting institution. Scores should be sent directly using MBKU Code 4893. Minimum scores are noted below:

Reading	22/30
Listening	22/30
Speaking	26/30
Writing	24/30

Procedures

All first time applicants, reapplicants and those who have been previously enrolled in another pharmacy program must apply through the centralized application service: PharmCAS. Applicants must follow the instructions on how to complete the application, submit transcripts and submit letters of recommendation. All supplemental application materials will be completed on-campus during the applicant interview day.

The Pharmacy College Admission Test (PCAT) is not required, but a high score could enhance an applicant's chances of admission. If you wish to make available your PCAT scores, please select MBKU as a recipient at the time the exam is taken.

Process

The PharmCAS application cycle begins in July. Applicants must submit application and college transcripts to PharmCAS by the final application deadline.

Applications are processed as soon as they are verified by PharmCAS. Candidates will be invited to campus for interviews between Fall and Spring quarters. Video conference interviews may be offered under specific circumstances.

FINANCIAL INFORMATION

Tuition

2020-2021 Tuition, PharmD program

	Summer Quarter	Fall Quarter	Winter Quarter	Spring Quarter	Total
1st/2nd year tuition	-0-	$17,650	$17,650	$17,650	$52,950
Matriculation credit (1st-yr)	-0-	-1,500	-0-	-0-	-1,500
Net tuition: 1st-yr	-0-	$16,150	$17,650	$17,650	$51,450
Net tuition: 2nd-yr/3rd-yr	$13,239	$13,237	$13,237	$13,237	$52,950
Net tuition: 4th-yr*	$1,470.83	$1,470.83	$1,470.83	$1,470.83	$52,950

* In the 4th year, tuition will be charged per unit, per quarter, calculated as the annual tuition of $52,950, divided by 36 units.

Tuition for returning students enrolled less than full time

Tuition (less than full time) per credit hour……..$1,119

Audit per credit hour……....$100

Fees

Annual Student Association fee……...$115

Class account fee……...$45

Graduation fee (charged once in the final year)……..$175

Annual Parking fee (optional)…….$300

Other costs

Matriculation deposit / PharmD program (paid upon acceptance and credited to Fall Quarter tuition upon enrollment).....$1,500

Estimates for books, instruments, equipment, supplies and clinic uniforms for all four professional years are listed below.

Equipment……...$300

Books……..$750

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

DIDACTIC YEARS (P1-P3)

COURSES

PHM 400: IPE Medical Spanish. (2 credit hours)

This interprofessional team-taught elective course is designed to develop and/or improve students' communication in clinical situations with patients whose native language is Spanish. The focus of the instruction will be on learning basic conversation skills in order to elicit clinical histories, conduct an examination, and give oral instructions to Spanish speaking patients. Students will also be exposed to pertinent information about Latino culture as it pertains to medical care. Students will participate in language tasks through listening and speaking.

PHM 401: IPE Medical Ethics. (1.5 credit hours)

This interprofessional team-taught course introduces ethical theory and presents case studies that are commonplace in clinical professional practice. The lecture sequence that includes scope of practice, ethical theories, state regulations and clinical examples is supplemented with student led discussions on case studies using an interactive learning format. Students examine and address issues by applying ethical theory and values to resolving situations that challenge practitioners. Ethical issues dealing with confidentiality, professional referrals, advertising, record keeping, informed consent, medical mistakes and conflicts of interest are presented in class and discussion groups.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 402: IPE Evidence-Based Practice. (2 credit hours)

The overall goal of this course is to provide future medical professionals with knowledge on interpreting scientific studies in their chosen profession. Principles of evidence-based medicine are presented to allow evaluation of literature and other media relative to diagnostic and treatment approaches in patient care. Included in the course material are fundamental concepts in sampling, study design, sample size and power estimates, bias, validity, confounding, hypothesis testing, and an overview of statistical tests appropriate for clinical studies. Quantitative epidemiology approaches are presented such as incidence, prevalence, relative risk, and odds ratio to determine evaluation of patient risk and the efficacy of potential treatment approaches. The course will include material to enable critique and citation of peer-reviewed scientific literature, to assist future medical professionals prepare case reports and scientific manuscripts.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 403: IPE Population and Public Health. (2 credit hours)

This team-taught interprofessional course is to develop a foundational understanding of population and public health and its core functions of assessment, policy development and assurance. This course exposes the student to current trends in the U .S . healthcare system, including healthcare delivery systems and policy, healthcare information systems and healthcare outcomes. In addition the aim is to develop patient communication and educational skills for a culturally diverse patient population to address concepts of health promotion and disease prevention. Evidence-based recommendations for health promotion and disease prevention will be emphasized. Lectures, group activities, workshops, and simulations will be used to discuss and apply the concepts of disease prevention and health promotion.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 404: IPE Case Conferences. (0.75 credit hour)

This team-taught course is designed to support students' mastery of core competencies for interprofessional collaborative practice: values/ethics for interprofessional practice, roles/responsibilities, interprofessional communication, and teams/teamwork. Learners will demonstrate the acquisition of knowledge, skills, and behaviors aligned with interprofessional collaboration, communication, and teamwork via small group discussion and examination of clinical cases with relevance to various health professions. The course culminates in an interprofessional education simulation involving students from multiple health professions and standardized patients.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 405: IPE Preventing Burnout in Healthcare Students and Student Providers: Wellness and Self-Care. (1 credit hour)

One lecture hour per week. This is an IPE elective course aimed at preventing burnout. This course will provide a framework for establishing and maintaining a well-balanced life that includes self-care into the lives of health care students and student providers. At each session, you will complete the activities and reflect on how you feel as a result of your practice.

PHM 501: Foundations of Human Body and Disease I. (3 credit hours)

This foundational course is the first in a series designed to develop an understanding of anatomy, physiology, and pathophysiology concepts of disease as they pertain to each organ system. Students will learn to differentiate between normal physiologic variation and disease states. A blended approach (lecture, small group discussion, multimedia) is used for presentation of the material.

Prerequisites: Admission to the professional Pharmacy program.

PHM 502: Foundations of Human Body and Disease II. (3 credit hours)

This foundational course is the second in a series designed to develop an understanding of anatomy, physiology, and pathophysiology concepts of disease as they pertain to each organ system. Students will learn to differentiate between normal physiologic variation and disease states. A blended approach (lecture, small group discussion, multimedia) is used for presentation of the material.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 503: Foundations of Human Body and Disease III. (3 credit hours)

This foundational course is the third in a series designed to develop an understanding of anatomy, physiology, and pathophysiology concepts of disease as they pertain to each organ system. Students will learn to differentiate between normal physiologic variation and disease states. A blended approach (lecture, small group discussion, multimedia) is used for presentation of the material.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 504 & 505: Patient Assessment Lab I, II. (1.0 & 1.0 credit hour, respectively)

This foundational course is designed to introduce the art of physical examination as a bridge between anatomy, pathology and pathophysiology concepts with future therapeutic decision making. Students will be familiarized with the process of information gathering of symptoms, signs, nonverbal communication skills, medical history, verbal techniques of communication and empathy. Basic techniques on how to conduct a physical exam from head to toe and the use of the stethoscope, otoscope, and sphygmomanometer will be introduced.
Several teaching strategies are used throughout the course such as lectures, multimedia, videos, group discussions and practice, and OSCE which will help to develop the necessary skills to master the subjects.

Prerequisites: Admission to the professional Pharmacy program (for PHM 504) and successful completion of prior quarter coursework or program permission (for PHM 505).

PHM 510: Integrated Microbiology and Virology. (3 credit hours)

This foundational course is designed to introduce the fundamental concepts of microbiology encompassing disease-causing bacteria, viruses, fungi and parasites. Emphasis will also be on understanding host-pathogen interactions in causing human disease, etiology of disease, infection cycle, disease transmission and diagnostic processes. The course will also highlight upon host immune defense mechanisms, pharmaceutical intervention of microbial infections and resistance to such interventions. Microbial infections by the organ system will be discussed and integrated with principles of clinical presentation, prevention and general management through lecture and case studies.

Prerequisites: Admission to the professional Pharmacy program

PHM 511: Integrated Immunology. (3 credit hours)

This foundational course is designed to introduce the fundamental concepts of immunology encompassing elements of the immune system, antigen processing and antibody generation. Emphasis will be on development of T- and B-lymphocytes, T- and B-cell mediated immunity, host defense mechanisms in response to immediate and induced infections, and their prevention. The course will also highlight upon adaptive immunity, immunological memory, vaccination, autoimmunity and transplantation. Pathological consequences of immunodeficiency and/or autoimmunity will be discussed and integrated with principles of clinical presentation and management.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 520: Pharmaceutical Sciences I: Physical Pharmacy and Dosage Forms. (3 credit hours)

This foundational course is the first in a series designed to develop an understanding of the science behind drug dosage forms, delivery and preparation. Materials covered include the selected properties of drug substances that have an impact on the delivery of drugs to the human body, the dosage forms available for drug administration, and the therapeutic effect with respect to physical and chemical properties of drug in solution dispersion and solid state. The course also focuses on the theory, technology, formulation, evaluation and dispensing of dosage forms and delivery systems.

Prerequisites: Admission to the professional Pharmacy program.

PHM 521: Pharmaceutical Sciences II: Calculations. (3.5 credit hours)

This course is designed to emphasize mathematical concepts used in the practice of pharmacy for preparing and dispensing medications to a diverse patient population. Student pharmacists will use critical thinking and quantitative reasoning skills to compute the correct dose for a drug for both non-sterile and parenteral formulations. Student pharmacists will also explore patient specific parameters that influence the dosing regimen.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 522: Pharmaceutical Sciences III: Dosage Forms, Delivery Systems, and Compounding Laboratory. (4 credit hours)

This foundational course is the third in a series designed to develop an understanding of the science behind drug dosage forms, delivery and compounding preparation. Materials covered include the selected properties of drug substances that have an impact on the delivery of drugs to the human body, the dosage forms available for drug administration, and the therapeutic effect with respect to physical and chemical properties of drug in solution. This course includes compounding laboratory components to enhance development of knowledge and skills.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 523: Basic Pharmacokinetics. (3.5 credit hours)

Pharmacokinetics is the study of drug movement in the body, sometimes defined as what the body does to a drug. This course is designed to introduce the basic principles and concepts of pharmacokinetics such as drug absorption, distribution, metabolism and excretion, as well as pharmacokinetic parameters including rate constant, half-life, steady state concentration, clearance, and volume distribution. Factors that influence the pharmacokinetics of drugs including formulation, physicochemical properties, physiological and pathological conditions are discussed. Students learn to use mathematical equations to describe the pharmacokinetic process of drugs, and apply them to dosage regimen determinations. This course will also discuss the correlation of pharmacokinetics and pharmacodynamics which presents the effects of drug action at the receptor site. Upon successful completion of this course, students are expected to make rational drug therapy decisions such as determination of loading dose, maintenance dose and dosing intervals. The course prepares the student for Clinical Pharmacokinetics.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 530: Pharmaceutical Biochemistry. (3 credit hours)

Basic biochemistry as it relates to organ systems, disease and pharmacotherapy is presented and reviewed. This includes the principles of the thermodynamics, kinetics, structure, and regulation of biochemically significant molecules and their building blocks. Biochemical constructs (such as energy production, enzymes, membranes, DNA, RNA, proteins, anabolic and catabolic pathways, etc.) are discussed with respect to pharmaceutical treatment of human disease.

Prerequisites: Admission to the professional Pharmacy program.

PHM 540: Professional Practice and Healthcare Systems. (2 credit hours)

This course is designed to familiarize students with healthcare systems with emphasis on contemporary healthcare issues and pharmacy practice in the United States and services within various medication use systems. The scope of practice and role of the pharmacist in various health settings, historical development of pharmaceutical practice and care, workforce issues, and the economic aspects of pharmacy practice will be discussed. Other topics to be discussed include credentialing, federal and private health insurance, provider privileges, fee-for-service, value-based performance, medication-patient safety and medication therapy management.

Prerequisites: Admission to the professional Pharmacy program

PHM 541: Pharmacy Communications: Management and Leadership. (2 credit hours)

The course focuses on communication skills for interacting with a patient, along with principles of management, leadership, entrepreneurship, and personal/professional growth. Students will be introduced to communication strategies that optimize patient care, professional development, and workplace etiquette.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 550: Pharmacy Skills Lab I - Immunizations. (1 credit hour)

This course is the first of the Pharmacy Skills Lab series with a focus on pharmacy-based immunization delivery. Students will complete training and obtain American Pharmacists Association (APhA) certification in pharmacy-based vaccine immunization delivery.

Prerequisites: Admission to the professional Pharmacy program.

PHM 551: Pharmacy Skills Lab II - Community. (1 credit hour)

This course introduces students to the basic activities and skills for community pharmaceutical practice and care. Students will integrate foundational knowledge and skills learned in pharmaceutical and biomedical sciences. Students will learn and practice basic skills utilized in community medication use systems such as prescription fulfillment (e.g., receipt, preparation, labeling, dispensing, and distribution), pharmacy workflow and inventory management, use of pharmacy software, pharmacy abbreviations, pharmacy sig, therapeutic interchange, medication security with controlled substances, allergies, side effects, medication safety, and checking the work of technicians. Students will understand the importance of patient-customer service.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 552: Pharmacy Skills Lab III - Hospital. (1 credit hour)

This course introduces students to the basic activities and skills for hospital pharmaceutical practice and care. Students will integrate foundational knowledge with skills learned in pharmaceutical and biomedical sciences. Students will learn basic skills utilized in hospital medication use systems such as medication order fulfillment (e.g., preparation, dispensing, distribution), use of Electronic Health Records (EHR) and automation equipment, identification and prevention of medication errors, and laws and regulations.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 560: Pharmacy Law. (2 credit hours)

This course provides an overview of current state and federal laws that substantially impact the competent delivery of Pharmacy care and services in community, interprofessional, ambulatory/clinic, inpatient, administrative, and other key practice settings. Standards, guidelines, rules, requirements, practices, and policies relating to maintaining/improving patient safety and consumer protection are also provided. The laws and professional practice standards of the state of California are emphasized.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 580: Pharmaceutical Self-Care and Patient Advocacy I. (2 credit hours)

As the first course of the Pharmaceutical Self-Care and Patient Advocacy series, this course provides an overview of self-care and covers principles of pharmaceutical self-care and the systematic approach for assisting patients who seek self-care products for the treatment and prevention of various self-treatable conditions. Students will learn to assist, educate, and empower patients to take responsibility for, and control of, their own health. The body systems covered will integrate prior knowledge gained from the Foundations of Human Body and Disease course series and Patient Assessment Lab courses.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 581: Medical Spanish. (1 credit hour)

Effective communication is critical in delivering effective healthcare, and communication is most effective when both parties share a common language. This course will teach students the basics of Spanish as it applies to the medical field such as physical examinations, emergencies, common diseases within the Latino population, and specializations. By familiarizing students with conversational Spanish and medical Spanish, this course will enable students to apply their learning to real-world situations, to assist in communications, and ultimately to break down the barrier between healthcare providers and patients. By the end of the quarter, students should be able to communicate in simple Spanish using mainly the present tense, past regular tenses and phrasal verbs to express future intentions. They should be able to utilize specific medical terms learned in class. Students should be able to communicate with Spanish speaking patients by asking personal questions as well as questions about

their health. They should be able to understand basic spoken Spanish as related to the course material. They should be able to give advice and recommendations to a medical problem using short sentences.

Prerequisites: Pre-pharmacy curriculum and admission to program; Successful completion of prior quarter coursework or program permission.

PHM 601: Integrated Pharmacotherapeutics I. (5 credit hours)

This is the first course in the sequence of Integrated Pharmacotherapeutics that provides introductory knowledge of pharmacology, toxicology, medicinal chemistry, and clinical pharmacokinetics as related to the pharmaceutical sciences and foundations of pharmacotherapy. Drug receptors, signal transduction, ligand-molecular target interactions, drug discovery and development, functional groups and stereochemistry, structure-activity relationship (SAR) analyses, acid-base chemistry, ADME/Tox properties, biotransformation, therapeutic drug monitoring, and pharmacokinetic drug interactions will be covered in this course. Instruction consists of lectures, podcasts and pre-recordings, case studies, individual and group problem sets / projects / homework, workshops/recitations, and faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 602: Integrated Pharmacotherapeutics II. (5 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with an introduction to laboratory values and the clinical reasoning (SOAP) format followed by a focus on the renal system, fluid / electrolytes, and obesity. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 603: Integrated Pharmacotherapeutics III. (5 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on the gastrointestinal, hepatic, nutrition support, and cardiovascular systems. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 604: Integrated Pharmacotherapeutics IV. (6 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on the cardiovascular and endocrine systems. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 605: Integrated Pharmacotherapeutics V. (6 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on the endocrine, pulmonary and rheumatology systems. Within the endocrine system, diabetes will be broadly discussed. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 606: Integrated Pharmacotherapeutics VI. (5 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 610: Drug Information, Informatics and Literature Evaluation. (2 credit hours)

This course will provide a systematic approach to drug information and literature evaluation to formulate and implement appropriate drug therapy decisions. This includes effective searching, retrieval, evaluation and dissemination of electronic and print resources. Students will utilize skills learned in this course to effectively communicate and tailor drug information at the appropriate level for providers, other health professionals, caregivers, patients and the public. Emphasis will be placed on the

interpretation and application of critical analytical skills to clinical questions. Additionally, this course will provide introductory knowledge on the state-of-the-art in pharmacy informatics and decision support systems needed to implement patient-centered care. Students will be able to define basic terminology used in health informatics and describe the health benefits and current constraints in using information and communication technology in health care. Practical exercises will provide the student with hands-on experience using numerous drug information sources and evaluation techniques.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 615: Advanced Applications in Clinical Practice I. (1 credit hour)

This course series is designed to develop knowledge and clinical reasoning skills required for provision of effective, safe, patient-centered, pharmacotherapy care. Instruction consists of: lectures, case studies, clinical problem sets, clinical exams, medical simulation, and group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 621: Behavioral and Social Science. (2 credit hours)

This course will examine social and behavioral influences on health-related behaviors and the dissemination of health information. Students will be introduced to cultural and health-related factors of individuals from diverse backgrounds. The course will also explore a range of social, ethical, and cultural factors associated with professional practice. Upon successful completion of this course, students should develop greater behavioral and cultural sensitivity when interacting with patients from diverse populations.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 640: Pharmacy Skills Lab IV - Patient Care Process. (1 credit hour)

This course focuses on the Pharmacists' Patient Care Process (PPCP) with an emphasis on skills necessary for collection and assessment of patient-centered data including utilization of laboratory medicine in clinical and pharmaceutical care. The laboratory time is coordinated with initiation of the Clinical Medicine and Pharmacotherapeutics series. Students will be introduced to fundamental laboratory biological tissue testing with emphasis placed on general interpretation of laboratory data, systematic use of laboratory tests in the evaluation and management of common and important clinical conditions and the application of laboratory test results to clinical and pharmaceutical care. Additionally, students have the opportunity to learn and practice basic skills utilized in delivery of contemporary drug therapy monitoring and point-of-care testing.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 641: Pharmacy Skills Lab V - Cardiovascular. (1 credit hour)

This course focuses on the pharmacist's role in cardiovascular disease risk management. Students will learn essential skills to assess risk, promote cardiovascular disease prevention, and encourage patient adherence to therapy. Students will also complete training and obtain American Pharmacists Association (APhA) certificate in Pharmacy-Based Cardiovascular Disease Risk Management. This program will teach students current guidelines and provide evidence based recommendations to support management of patients with dyslipidemia and hypertension to prevent cardiovascular disease.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 650: Pharmaceutical Self-Care and Patient Advocacy II. (2 credit hours)

As the second course of the Pharmaceutical Self-Care and Patient Advocacy series, this course covers principles of pharmaceutical self-care and the systematic approach for assisting patients who seek self-care products for the treatment and prevention of various self-treatable conditions. This course will build on principles covered in Pharmaceutical Self-Care and Patient Advocacy I, and further develop students' knowledge of self-care conditions and medications. Students will learn to assist, educate, and empower patients to take responsibility for, and control of, their own health. The body systems covered will integrate prior knowledge gained from the Foundations of Human Body and Disease, Patient Assessment Lab, and Pharmaceutical Self-Care and Patient Advocacy I courses.

Prerequisites: Successful completion of prior quarter of pharmacy coursework or program permission.

PHM 651: Pharmaceutical Self-Care and Patient Advocacy III. (2 credit hours)

As the final course in the Pharmaceutical Self-Care and Patient Advocacy series, this course continues to cover principles of pharmaceutical self-care and the systematic approach for assisting patients who seek self-care products for the treatment and management of various self-treatable conditions. Students will learn to assist, educate, and empower patients to take responsibility for, and control of, their own health. Building on content from previous courses in the series, students will expand

their knowledge in pharmaceutical self-care products and develop robust patient education skills. The body systems covered will integrate prior knowledge gained from the Foundations of Human Body and Disease, Patient Assessment Lab, and Pharmaceutical Self-Care and Patient Advocacy I & II courses.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 670: Introductory Pharmacy Practice Experience (IPPE) I. (4 credit hours)

This course provides introductory community pharmacy practice experience for student pharmacists of the College of Pharmacy. Under appropriate preceptor supervision and consistent with practice regulations for intern pharmacists, students will further develop, integrate, and apply knowledge from the first curriculum year. Student pharmacists will evaluate prescription and patient information, understand the basic steps for prescription data entry and processing, prescription preparation, actively observe elements of prescription consultations, and understand the basics of medication compliance and errors.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 680, 750, 751: Research & Scholarship I, II, III. (0.5, 0.5, and 1 credit hour each)

Research & Scholarship course series requires students to perform a research/scholarly activity project under the supervision of an internal faculty member or external preceptor. The course has been integrated longitudinally to provide the student with opportunities to participate in various scholarly activities such as: bench research, educational research, community-based research, clinical research, literature review, or other kinds of scholarly activity. The project will culminate in a Research & Scholarship Poster Presentation Day, where students will be given the opportunity to share their results.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 701: Pharmacoeconomics. (2 credit hours)

This course will discuss health economics with an emphasis on evaluating the cost and outcome effects of a pharmaceutical product from various perspectives. Several types of pharmacoeconomic analyses (e.g., cost-minimization, cost-benefit, cost-effectiveness and cost-utility) will be introduced. Factors underlying the pricing of drugs (development, testing, licensing, manufacturing, marketing, etc.), and translation to healthcare costs. The macro/micro-economics of various aspects of pharmacy practice are discussed, including the impact of such pricing on hospital, retail, and other environments. Students will learn how to utilize pharmacoeconomic principles to guide optimal healthcare resource allocation, in a standardized and scientific manner.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 710: Integrated Pharmacotherapeutics VII. (5 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on the central nervous system and psychiatric disorders. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 711: Integrated Pharmacotherapeutics VIII. (5 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on the neurological conditions and toxicology. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 712: Integrated Pharmacotherapeutics IX. (6 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on infectious diseases. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 713: Integrated Pharmacotherapeutics X. (5 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on infectious diseases and solid organ transplant. This course is designed to develop knowledge and clinical reasoning skills required for provision of effective and safe patient-centered, pharmacotherapy care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 714: Integrated Pharmacotherapeutics XI. (6 credit hours)

Continuation of the Integrated Pharmacotherapeutics course series with a primary focus on oncology. This course is designed to develop knowledge and clinical reasoning skills required for the provision of effective and safe patient-centered care. Instruction consists of lecture, case studies, clinical problem sets, recitations, and structured faculty-led group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 715: Advanced Applications in Clinical Practice II. (2 credit hours)

This course series is designed to develop knowledge and clinical reasoning skills required for provision of effective, safe, patient-centered, pharmacotherapy care. Instruction consists of: lectures, case studies, clinical problem sets, clinical exams, medical simulation, and group discussions.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 730: Pharmacy Skills Lab VI - Diabetes. (1 credit hour)

This course focuses on the pharmacists' role as the medication therapy expert on the diabetes health care team. Students will learn essential knowledge and skills needed to provide effective, evidence-based diabetes care. Students will obtain the American Pharmacists Association (APhA) certificate in The Pharmacist and Patient-Centered Diabetes Care and will receive comprehensive training in current diabetes standards of care to support management of patients with diabetes mellitus.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 731: Pharmacy Skills Lab VII - Medication Therapy Management. (1 credit hour)

This course focuses on medication therapy management (MTM). Student pharmacists will learn to perform all aspects of an MTM visit, use effective communication skills with both patients and other healthcare professionals, and describe strategies for implementing MTM services. Student pharmacists will also complete training and obtain the American Pharmacists Association (APhA) certification in Medication Therapy Management.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 740: Biotechnology, Pharmacogenomics and Precision Medicine. (3 credit hours)

Precision medicine or personalized medicine is the integration of established clinical–pathological indexes with state-of-the-art molecular profiling to create diagnostic, prognostic, and therapeutic strategies precisely tailored to an individual patient's requirements. This introductory course will discuss the scientific principles of biotechnology, molecular biology and pharmacogenomics pertaining to precision medicine. Topics include bioinformatics, gene therapy, genotyping, molecular biomarkers, nanotechnology, recombinant protein and monoclonal antibody therapeutics and targeted therapy.

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 760: Special Populations. (2 credit hours)

This course will focus on the pharmacists' role as the medication therapy management expert in special populations in pharmacy: travel health, geriatric, pediatric, and veterinary. Students will learn about epidemiology, etiology, clinical signs and symptoms, therapeutic management, and prevention of diseases in these special populations in order to provide effective, evidence-based pharmaceutical care. Students will complete the American Pharmacists Association (APhA) Pharmacist-Based Travel Health Services certificate training program in the course.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 765: Emerging Issues and Practice Readiness Examination. (4 credit hours)

This course is intended to assess the readiness of the students to enter the final year of the curriculum, prior to going to their APPE rotations. The course includes an extensive review of prior and current course materials.It also serves as a review for the NAPLEX. Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 770: Introductory Pharmacy Practice Experience (IPPE) II. (4 credit hours)

This course provides introductory hospital pharmacy practice experience for students of the College of Pharmacy. Under appropriate preceptor supervision and consistent with practice regulations for intern pharmacists, students will complete the development and ability to integrate and apply knowledge from the didactic curriculum to practice as a licensed pharmacist in the institutional pharmacy practice setting. The student pharmacist will evaluate prescription and patient information, basic steps of prescription, data entry, prescription preparation and labeling, observe prescription consultations, understand the basics of medication compliance and errors in an institutional pharmacy practice setting.

Prerequisites: Successful completion of prior quarter coursework or program permission.

PHM 780, 781, 782, 783, 784, 785, 786, 788, 789, 790, and 791. (1 - 4 credit hours each)

Students select from a list of approved electives. Each elective may be taken once per student. Electives include topics in the following: Drug development, infectious diseases, calculations, compounding, psychiatry, research, spanish, statistical analysis, substance abuse, preventing burnout, residency readiness, and future planning.

Prerequisites: Successful completion of prior quarter coursework or program permission.

CLINICAL YEAR P4

PHM 801, 802, 803, 804, 805, 806: Advanced Pharmacy Practice Experience. (6 credit hours each)

Each student completes six advanced pharmacy practice experiences, each of six weeks duration. These experiences take place in the following practice settings:

- Community Pharmacy
- Hospital or Health System Pharmacy
- Inpatient/Acute Care General Medicine
- Ambulatory Care
- Two Elective Settings

Elective settings include: academia, ambulatory care specialties, compounding, consultant pharmacy, medication therapy management, internal medicine specialties, long-term care, managed care, nuclear medicine, optometric pharmacy, pharmacy administration, pharmaceutical industry, regulatory, research, and specialty pharmacy.

6 x 6-week experiences and 6 h / experience = 36 credits

Prerequisites: Successful completion of prior quarter of coursework or program permission.

PHM 801: Advanced Pharmacy Practice Experience: Community Pharmacy Practice. (6 credit hours)

This course provides advanced pharmacy practice experience for students of the College of Pharmacy. Under appropriate preceptor supervision and consistent with practice regulations for entry-level PharmD candidates, student pharmacists will complete the development and ability to integrate and apply knowledge from the didactic curriculum to practice as a licensed pharmacist in the community pharmacy practice setting.

PHM 802: Advanced Pharmacy Practice Experience: Hospital/Health System Pharmacy Practice. (6 credit hours)

This course provides advanced pharmacy practice experience in hospital or health system pharmacy practice settings, with emphasis on individualized patient care and hospital/health system-based practices. Students identify, evaluate, and resolve medication therapy related problems; assist with drug information, participate in interprofessional care and patient care rounds, monitor patients, identify opportunities for therapeutic interventions, and communicate with other healthcare professionals. Practical understanding of clinical pharmacy systems, sterile products preparation, formulary management, protocol application, dose adjustments, use of electronic medical records, medication safety and reconciliation, pharmacokinetic and hyper-alimentation consultations, and demonstration of understanding of pharmacy laws, standards, and hospital-based operational processes is expected.

PHM 803: Advanced Pharmacy Practice Experience: General Medicine. (6 credit hours)

This course provides advanced pharmacy practice experience for students of the College of Pharmacy. Under appropriate preceptor supervision and consistent with practice regulations for intern pharmacists, students will complete the development and ability to integrate and apply knowledge from the didactic curriculum to practice as a licensed pharmacist in the general medicine pharmacy practice setting. The student pharmacist will gain experience in practice management, and interactions with

other health care providers. The students will develop an understanding of the pathophysiology, complications, pharmacotherapy and non-pharmacotherapy management in various patient populations encountered in the general medicine practice setting.

PHM 804: Advanced Pharmacy Practice Experience: Ambulatory Care Pharmacy Practice. (6 credit hours)

This course provides advanced pharmacy practice experience for students of the College of Pharmacy. Under appropriate preceptor supervision and consistent with practice regulations for intern pharmacists, students will complete the development and ability to integrate and apply knowledge from the didactic curriculum to practice as a licensed pharmacist in the ambulatory care pharmacy practice setting. The student pharmacist will gain experience in practice management, and interactions with other health care providers.

PHM 805 and 806: Advanced Pharmacy Practice Experience: Elective Rotations. (6 credit hours)

This experiential course provides the opportunity for student pharmacists to select from a list of electives with a variety of non-patient care foci or an additional clinical specialty pharmacy practice experience. Student pharmacists under the supervision of an adjunct faculty or full time faculty member will gain experience in their chosen elective area. The student will continue to develop a philosophy of practice, an understanding of the role of the pharmacist as a member of the health care team, and gain knowledge and skills to manage resources and daily operations applicable to the specific elective rotation site.

COMMENCEMENT AWARDS

Latinized honors are accorded to those students who have excelled scholastically on the following basis:

Summa Cum Laude 3.80 – 4.00

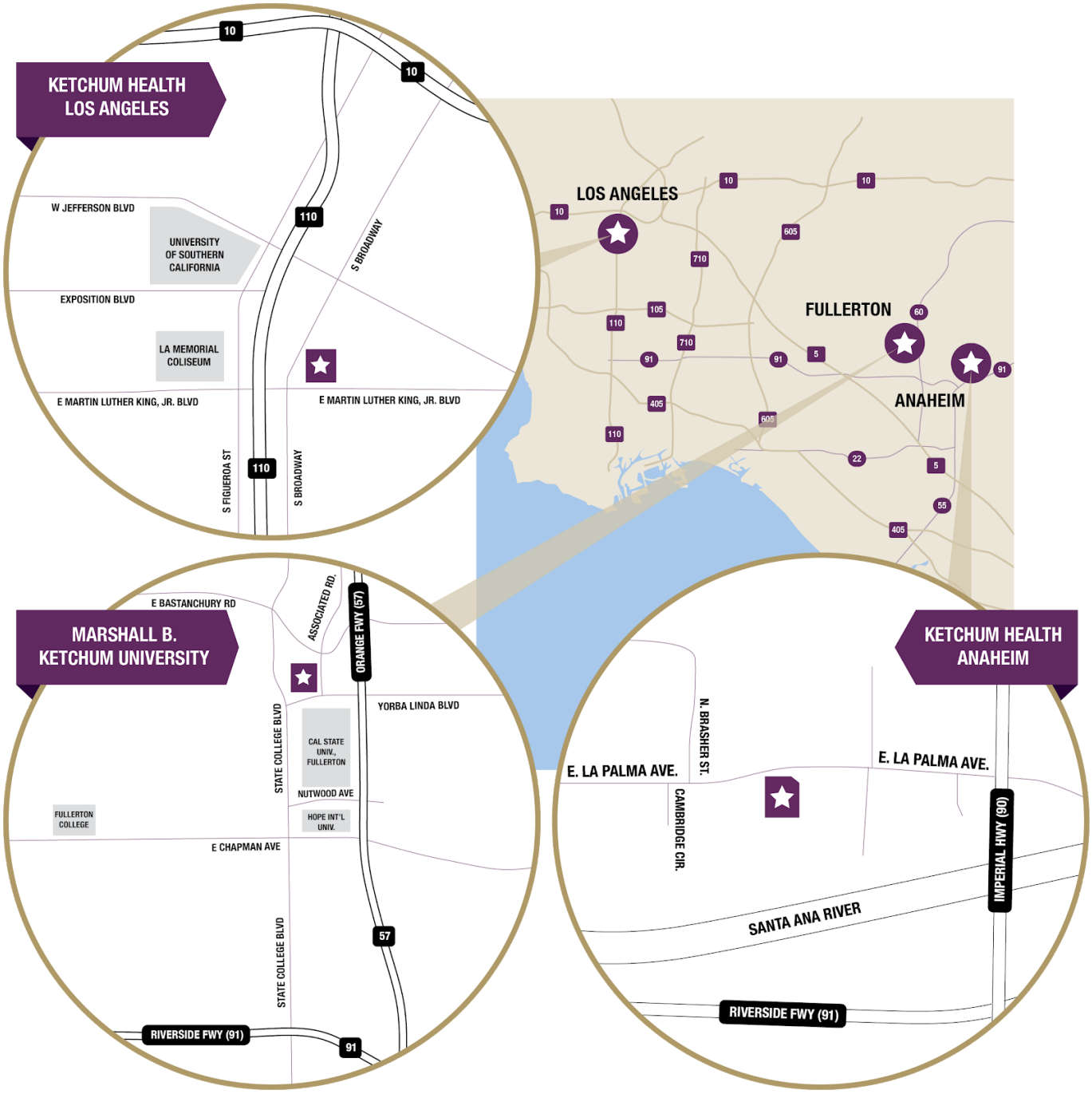
Magna Cum Laude 3.60 – 3.79

Cum Laude 3.40 – 3.59

CHAPTER IV: MAPS, CALENDAR, DIRECTORIES, CONTACT US

MAPS

MAPS *(Continued)*



ABBREVIATED UNIVERSITY ACADEMIC CALENDAR YEAR 2020-21

(see program for detailed calendar)

Summer Quarter	
Memorial Day Recess (University Closed)	May 23-25, 2020
Summer Quarter Begins	May 26, 2020
Independence Day Recess (University Closed)	July 4, 2020
Summer Quarter Ends	August 15, 2020
Fall Quarter	
Orientation Week	August 10-14, 2020
Fall Quarter Begins	August 17, 2020
Labor Day Recess (University Closed)	September 7, 2020
Fall Quarter Ends	November 7, 2020
SPAS Commencement	November 13, 2020
Winter Quarter	
Winter Quarter Begins	November 09, 2020
Thanksgiving Recess (University Closed)	November 25-29, 2020
Instruction Resumes (All Students)	November 30, 2020
Winter Recess (All Students)	December 21, 2020 - January 3, 2021
Instruction Resumes (All Students)	January 4, 2021
Martin Luther King Recess (University Closed)	January 18, 2021
Winter Quarter Ends	February 20, 2021
Spring Recess	February 22-27, 2021
Spring Quarter	
Spring Quarter Begins	March 1, 2021
SCCO Commencement	TBD
COP Commencement	TBD
Spring Quarter Ends	May 22, 2021

MBKU DIRECTORIES

Board of Trustees
ketchum.edu/about-us/leadership

University Student Affairs
ketchum.edu/student-life/connect-us

MBKU Directory
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Admissions, School of Physician Assistant Studies	714.992.7808
Admissions, College of Pharmacy	714.872.5698
Admissions, Graduate Program	714.449.7494
Alumni Relations	714.463.7559
Business and Accounting Office	714.463.7546
Campus Safety	714.992.7892
Campus Store	714.449.7434
Financial Aid	714.449.7448
Human Resources, VP	714.449.7459
Interprofessional Health Studies	714.449.7470
M.B. Ketchum Memorial Library	714.449.7440
Optometry, Dean	714.449.7473
Optometry Outreach Clinical Programs	714.463.7527
Optometry Residencies	714.463.7527
Patient Appointments, Ketchum Health	714.463.7500
Patient Appointments, University Eye Center, Los Angeles	323.234.9137
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Physician Assistant Studies, Program Director	714.872.5689
President's Office	714.449.7451
Senior Vice President and Chief of Staff	714.463.7503
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