

Western University of Health Sciences

Graduate College of Biomedical Sciences

Master of Science in Medical Sciences (MSMS)

2018/2019 Catalog

Table of Contents

Graduate College of Biomedical Sciences.....	5
Accreditation.....	5
Complaints Regarding WASC Accreditation Standards.....	5
General Information	5
Mission.....	5
Vision.....	5
Program Overview	5
Program Faculty	6
Personal Competencies for Admission and Matriculation	7
Observation.....	7
Communication.....	7
Motor	7
Intellectual, Conceptual, Integrative, and Quantitative.....	7
Behavioral and Social.....	7
Ethical Standards.....	8
Admissions Policies and Procedures	9
Non-Discrimination Policy.....	9
Reasonable Accommodation for Disabilities	9
Admissions Requirements.....	9
Admission Prerequisites.....	10
Application Process.....	10
Application Timeline	11
Applicants with Foreign Coursework	11
International Students	11
Transfer Credit	11
Registration.....	12
Registration Late Fee Appeals.....	12
Student Health Insurance Requirement	12
New Student Orientation/Welcome Week.....	12
Student Initiated Changes in Enrollment Status.....	12

Full-Time/Part-Time Status	13
Time Limits	13
Tuition and Fees	14
Other Fees and Expenses	14
Repeated Coursework Tuition Rate	14
Financial Aid and Program Scholarships	14
Graduate College of Biomedical Sciences Dean’s Scholarship	14
General Academic Policies and Procedures	16
Attendance and Participation	16
Academic Advising	17
Research Requirements	17
Issues/Dispute Resolution Procedure	17
Standards of Academic Integrity, Professionalism and Student Conduct	19
GCBS Honor Code.....	19
MSMS Professional Dress and Behavior	19
Respect.....	19
Accountability	19
Excellence.....	19
Student Conduct Violations	20
Standards of Academic Progress.....	21
Graduation	21
Adverse Actions	22
Evaluation and Grading.....	25
Master of Science in Medical Sciences (MSMS) Program Learning Outcomes	25
Grading Scale	26
Incomplete	26
Grade Reports	26
Credit Hour Calculation.....	26
Grade Appeals Process.....	26
Curriculum Organization.....	28
Course Descriptions	29
Honors and Awards.....	32

Academic Calendar 33

Graduate College of Biomedical Sciences

Master of Science in Medical Sciences (MSMS)

Accreditation

Western University of Health Sciences is accredited by the Senior College and University Commission of the Western Association of Schools and Colleges (WASC). WASC's statement of accreditation status can be found at <http://www.wascsenior.org/institutions/western-university-health-sciences>. You may contact WASC at 985 Atlantic Avenue, Suite 100, Alameda, CA 94501. Phone: (310) 748-9001, Fax: (310) 748-9797, E-mail: wascscr@wascsenior.org. WASC is a non-profit organization that evaluates the quality and educational effectiveness of schools, colleges, and universities. WASC is one of six regional accreditation agencies in the United States. While it is not officially regulated by the government, it is regularly reviewed by the US Department of Education and the Council for Higher Education Accreditation.

Please refer to the specific college sections of this catalog for further information on program and professional accreditations.

Complaints Regarding WASC Accreditation Standards

Western University of Health Sciences is committed to meeting and exceeding the standards for accreditation of colleges and universities as described by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges (WASC). It is the policy of Western University of Health Sciences that a student, employee, or other constituent of the University that believes that they University may not be in compliance with the standards of accreditation has a right to file a complaint can view the complaint submission process at: <http://www.wascsenior.org/comments>.

General Information

Mission

The mission of the MSMS program at Western University of Health Sciences is to prepare students for health-related professional school by educating them in the knowledge, critical evaluation skills, and research awareness that allows them to become well-informed, evidence-based professionals.

Vision

The MSMS program is designed to assist individuals from diverse backgrounds in gaining acceptance to professional schools with the ultimate goal of increasing the number of health-professionals in underserved areas.

Program Overview

A minimum of 46.50 credit hours is required for completion of the MSMS program. This includes didactic study, clinical shadowing, research and laboratory work leading to a thesis. The program emphasizes integration of biomedical sciences and research-based knowledge in clinical decision-making. Courses, laboratory experiences, and research will serve to provide students with the skills required to integrate scientific knowledge, literature evaluation, and clinical decision-making, and will culminate in a capstone course, assessed by final project and poster presentation.

Program Faculty

Program faculty have appointments in the Graduate College of Biomedical Sciences, as well as the Colleges of Health Sciences, Osteopathic Medicine of the Pacific, Veterinary Medicine, Pharmacy, and Dental Medicine, as well as accredited outside institutions of postsecondary education. Their areas of research emphasis include molecular biology, microbiology, biochemistry, immunology, neuroscience, anatomy, and physiology.

Personal Competencies for Admission and Matriculation

A candidate for admission to the MSMS degree program in the Graduate College of Biomedical Sciences must possess, or be able to achieve through a reasonable accommodation, certain sensory and motor functions, or reasonable accommodations, that would enable the individual to carry out the activities described in the sections that follow. Upon matriculation to the program, the student must continue to possess, or be able to achieve through a reasonable accommodation, the personal competencies outlined below throughout their progression in the MSMS degree program. Graduates of the program are eligible for employment in a wide variety of academic and clinical programs, and as a result, they must have the intellectual ability to learn, integrate, analyze, and synthesize numerical, visual, and textual information in the biomedical sciences and health professions fields. They must also be able to effectively and accurately integrate this information and communicate it to others by both oral and written means.

A candidate for the MSMS degree program in the Graduate College of Biomedical Sciences ordinarily must have abilities and skills of six general varieties, including but not limited to: (1) observation; (2) communication; (3) motor; (4) intellectual, conceptual, integrative, and quantitative; (5) behavioral and social and (6) ethical standards. For candidates or students who require a reasonable accommodation in order to meet the competencies outlined below, please contact the Harris Family Center for Disability and Health Policy/Accommodation and Resource Center (CDHP/AARC) at (909) 469-5297.

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

Observation

Candidates must have sufficient vision to be able to observe demonstrations and presentations by faculty and other students.

Communication

Candidates must be able to communicate effectively. They should be able to hear and must be able to read, write, and speak English.

Motor

Candidates should have sufficient motor function, or reasonable accommodations to enable them to operate commonly used lab and educational equipment, (including, but not limited to, computers, microscopes, overhead projectors); these actions require coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision.

Intellectual, Conceptual, Integrative, and Quantitative

Candidates must demonstrate problem-solving skills, which include measurement, calculation, reasoning, analysis, and synthesis. Preparation of a thesis, oral presentation or capstone project require all of these intellectual abilities.

Behavioral and Social

Candidates must possess the emotional health required for full utilization of their intellectual abilities. They must show evidence that they can exercise good judgment and promptly complete all responsibilities involved in the education process. Candidates must also demonstrate that they can develop mature, sensitive, and effective relationships with faculty, staff, and colleagues. Additionally, they must be able to

tolerate physically and mentally taxing workloads, adapt to changing environments, and display flexibility. Compassion, integrity, concern for others, interpersonal skills, interest, and motivation are some of the personal qualities that will be assessed during the admissions and educational processes.

Ethical Standards

Candidates must demonstrate the ability to reason morally in a professional and ethical manner with faculty, peers, and communities.

Admissions Policies and Procedures

Non-Discrimination Policy

In accordance with all applicable federal, state, and local laws, Western University of Health Sciences (WesternU) is committed to ensuring a campus community free from unlawful discrimination. Accordingly, WesternU prohibits unlawful discrimination on the basis of race, color, national or ethnic origin, religion or religious creed, sex or gender (including gender identity or expression), marital status, sexual orientation, disability, age, genetic information, military or veteran status, or any other characteristic protected under applicable law, in the administration of its programs or activities. WesternU also prohibits unlawful harassment, including Sexual Harassment. Lastly, WesternU is committed to providing equal access to and equal opportunities to all members of its campus community in accordance with all applicable laws.

This non-discrimination policy applies to applicants, students, and alumni. Additional nondiscrimination information can be found in the Non-discrimination, Anti-Harassment, and Anti-Retaliation Policy, located in the University Catalog.

Reasonable Accommodation for Disabilities

Candidates and students must be able to perform all the essential functions of the program with or without reasonable accommodation. A student who discloses a disability and requests accommodation will be referred to the Harris Family Center for Disability and Health Policy (CDHP). The student will be asked to provide documentation of the disability for the purposes of determining appropriate accommodations. The Graduate College of Biomedical Sciences will provide reasonable accommodations but is not required to make modifications that would substantially alter the nature or requirements of the program. A student with questions regarding reasonable accommodation can contact the CDHP office.

Admissions Requirements

The application requirements shown in this catalog apply to applicants who are seeking entry for the 2018/2019 academic year. Current admission and application requirements for the MSMS program, including prerequisite coursework requirements, can be located on the [Prospective Student website](#).

Applicants must possess a Bachelor's degree with a strong science component. The minimum criteria to receive consideration for admission are listed below. Meeting these criteria, however, does not guarantee admission into the program.

- A completed Western University of Health Sciences Graduate Application form (including all supplemental information requested).
- Official transcripts of all coursework taken at institutions of higher education.
- Official test scores taken within the last three (3) years (please see chart below).

Professional Goal	Standardized Test	CAS (Optional)
Pre-Medical	MCAT	AACOMAS or AMCAS
Pre-Dental	DAT	AADSAS
Pre-Optometry	OAT	OPTOMCAS
Pre-Podiatry	MCAT	AACPMAS
Pre-Pharmacy	GRE (General) or PCAT	PHARMCAS

Pre-Physician Assistant	GRE (General)	CASPA
Pre-Physical Therapy	GRE (General)	PTCAS
Pre-MSNE (Graduate Nursing)	GRE (General)	NURSINGCAS

- Three letters of reference from individuals familiar with the applicant’s scholarship, appropriateness for a health care profession, and research potential. One letter must be from a science faculty member.
- OPTIONAL: A copy of a verified centralized application which should not be more than 1 year old (please see chart above).

Admission Prerequisites

- A bachelor’s degree with a strong science component from a regionally accredited U.S. institution or at an equivalent foreign institution. Exceptions will be made on a case-by-case basis. All coursework taken from non-U.S. institutions (including Canada) must be submitted to an [approved service](#) for evaluation.
- To be considered, an applicant must have completed all prerequisite courses required for his/her declared professional program. These typically include one year of general biology, one year of general chemistry, 1-2 semesters of organic chemistry and 1-2 semesters of physics. Biochemistry is usually not required, but often highly recommended.
- Additional courses that will enhance one’s application, such as upper division courses in molecular and cellular biology, genetics, immunology, anatomy, and physiology.
- At least a 2.50 overall grade point average

Applicants must submit a copy of the prerequisite course requirements for their intended professional program of study with their application. It is the applicant’s responsibility to ensure that they have met the prerequisite requirements for their intended program of study. Admission to and/or completion of the MSMS program does not in any way imply a guarantee of acceptance to professional programs of study in the future.

Besides a strong academic record, we are looking to accept students who demonstrate the ability to integrate and disseminate information, who have outstanding communication and interpersonal skills, and who demonstrate caring and empathy towards other people and experimental animals. We recommend applicants have a strong record of service to those from economically, educationally, and/or medically underserved backgrounds.

Application Process

Applications and detailed information on how to apply can be found on the [Prospective Student website](#). All applicants must submit the following directly to WesternU Admissions Office:

- WesternU- Master of Science in Medical Sciences online application
- Non-refundable \$50.00 application fee

- Official GRE/MCAT/DAT/OAT/PCAT (depending on professional school goal, see table above)
- TOEFL scores (for graduates of foreign universities)
- 3 letters of reference (one letter must be from a science professor)
- Official college transcripts **for all college and universities attended.**

Application Timeline

Applications open on or around October 1 of the year prior to entry. The application deadline is February 1 of the year of entry. Completed applications are reviewed on a rolling basis and early applications are strongly encouraged.

Applicants with Foreign Coursework

Applicants who wish to use coursework completed outside the United States must submit their transcripts for evaluation to a [Western University of Health Sciences Approved Service](#) at the candidate's expense. A course-by-course evaluation is required, and all coursework must be designated as undergraduate, graduate or professional. WesternU only honors evaluations from one of the approved services. The official evaluation must be included with the application packet.

International Students

International students and any other applicants who are not U.S. citizens and who are living in the U.S. should be prepared to provide proof of legal U.S. residency at the time of interview. Proof of legal U.S. residency is required prior to any offer of acceptance. For detailed information, please visit our web page for [International Students](#).

Transfer Credit

Ordinarily, transfer credit will not be accepted. Under extraordinary circumstances, the faculty of the MSMS program may allow up to nine credit hour to transfer if the coursework has been completed within an accredited graduate or professional program and there is compelling reason provided for the transfer. In order to have a course transferred the student must provide the catalog description and course syllabus so that the appropriate faculty can approve the course's subject equivalency. Once these materials have been submitted to the Associate Dean of Academic Affairs, they will be reviewed ordinarily within 10 business days, by appropriate faculty. A decision about equivalency and transferability will be made at that point. The Associate Dean will notify the student of the decision by email. Under no circumstances will credit be granted for coursework taken while enrolled as an undergraduate student.

Registration

All WesternU students are required to register by the registration deadlines specified by the University Registrar. Registration dates are posted on the [Registrar's Office](#) website. Failure to register by the deadline may be grounds for administrative withdrawal. All students registering after the posted deadline will be assessed a \$30.00 per business day late fee.

Full tuition and fees and all prior debts must be paid in full on or by posted deadlines each academic year. Matriculation is subject to the satisfactory completion of all academic requirements and payment of all outstanding debts to the University. The receipt of the final transcript(s) from all colleges/universities attended and a physical examination with documentation of required immunizations (if applicable) prior to registration are additional requirements for incoming students.

Registration Late Fee Appeals

If you are assessed late fees for a registration period, you may submit an appeal to the Registrar. For additional information on the appeal process, please see the [Registration Late Fees](#) page on the Registrar's Office website.

Student Health Insurance Requirement

All full-time students at Western University of Health Sciences are required to have active health insurance while enrolled. All students are automatically assessed half of the entire year's insurance premium and will be enrolled in the student health insurance plan until they submit proof of coverage that meets the University's requirements. For additional information on student health insurance requirements and/or waiving out of the student health insurance plan, please see the [Student Health Insurance](#) page on the Registrar's Office website.

New Student Orientation/Welcome Week

Attendance at all Orientation and Welcome Week activities is mandatory. There may also be classes during Welcome Week in the MSMS program. For additional information on Welcome Week activities for the Graduate College of Biomedical Sciences, Master of Science in Medical Sciences program, please visit: <http://www.westernu.edu/students/welcome-week/>.

Student Initiated Changes in Enrollment Status

Leave of Absence

A student may request a Leave of Absence (LOA) with the occurrence of a medical emergency or illness, personal issues, financial hardship, or military service. Students must be in good academic standing to be eligible for a Leave of Absence. For additional information on the University's Leave of Absence policy, please see 'Student Initiated Changes in Enrollment Status' in the University Catalog, General Academic Policies and Procedures section.

Withdrawal from University/Academic Program

Matriculation at the University is a privilege granted in consideration of specified levels of performance and of maintaining the established standards of scholarship and personal and professional conduct. The University reserves the right to require withdrawal at any time it deems necessary to safeguard its standards of scholarship, conduct, and orderly operation. The student concedes this right by act of matriculation. For additional information on withdrawing from the MSMS program, please see 'Student

Initiated Changes in Enrollment Status' in the University Catalog, General Academic Policies and Procedures section.

Full-Time/Part-Time Status

All MSMS students enrolled in at least 8.00 units are considered full-time students. Students enrolled in 6.00 – 7.99 units are considered three-quarter-time students. Student enrolled in 4.00 – 5.99 units are considered part-time students.

Time Limits

The Master of Science in Medical Sciences program is designed to be completed in one (1) year of full-time study. The requirements for the degree must be fulfilled within 1 year, 6 months from the date of matriculation to the program. Students who are unable to meet the 1 year, 6 month time limit for the MSMS program may be subject to administrative withdrawal.

Tuition and Fees

By action of the Board of Trustees, MSMS tuition and fees for the 2018/2019 academic year (subject to change) are as follows:

\$26,345.00	Annual Tuition
\$40.00	Student Body Fee

Other Fees and Expenses

\$70.00	Audience Response System Device
\$862.00	Textbooks and Supplies
\$75.00	Capstone Poster Printing
\$30.00	Registration Late Fee (Per Business Day)
\$350.00	Graduation Fee
\$470.00	Annual Parking Permit (Auto)
\$40.00	Locker Key Replacement Fee
\$10.00	Official Transcript (Each)
\$21.00	Rush Transcript, First Class Mail (Each)
\$25.00	Rush Transcript, Federal Express (Each)
\$10.00	Student ID Replacement Fee
\$TBD	Breakage Fee (Replacement Cost)

Repeated Coursework Tuition Rate

Students enrolled in the MSMS program who are directed to repeat one or more courses but not the entire academic year are charged a per unit tuition rate. This rate is calculated by dividing the total units required for a class year by the annual tuition. The per unit rate for 2018/2019 are shown below:

\$566.56	MSMS Repeated Coursework Per Unit Charge
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Financial Aid and Program Scholarships

A graduate education is more important than ever today yet paying for one can be a challenge. The key to obtaining financial aid is to start the process early. Applicants should first explore grants, scholarships, and other student aids, which do not require repayment. Military and veteran benefits are other avenues to finance your education. Educational loans, whether from federal or private sources, can also help you achieve your goals. Please visit our [Prospective Student](#) website for further information. The application process for the Dean of the Graduate College of Biomedical Sciences Scholarship Program opens in October of each academic year.

Graduate College of Biomedical Sciences Dean's Scholarship

Eligibility

Applicants must meet all of the following criteria:

1. Must be a Permanent Resident of the United States
2. Must be enrolled in the MSMS program

3. Must have at least a cumulative undergraduate college grade point average of 2.50 on a 4-point unweighted scale

Description of Funds

The recipient will receive a scholarship of approximately \$2,000 to \$15,000. Funds are provided by Western University of the Health Sciences and the Graduate College of Biomedical Sciences. Payments are credited to the student's account.

Responsibilities of Recipients

The Recipient must be actively enrolled full-time in the MSMS program and for the entire academic year without interruption, barring illness, emergency, or military service.

Selection Process

Students must complete a scholarship application. The Scholarship Committee will consider the following characteristics to determine the scholarship eligibility and amount:

- Underrepresented in the health professions
- Financial need
- Academic achievement and records
- School and community activities and leadership

Deadlines for Dean's Scholarship Applications will be announced after October 1 and in early spring. For financial need scholarships, a student's level of need is determined by a careful evaluation of detailed financial information. For merit scholarships, the student's academic performance will be a key determinant. All decisions of the selection committee are final and are not subject to appeal.

General Academic Policies and Procedures

Attendance and Participation

Students will come prepared and adhere to established times for classes, assessments, laboratories, rotations and meetings. Student attendance is required at all scheduled instructional periods. Absence from instructional periods for any reason does not relieve students from responsibility for the material covered during the periods missed. In order to receive an excused absence for instructional sessions, exams and assignments, it must be due to medical and emergency grounds and a TOR should be submitted and approved.

Three or more unexcused absences will be viewed as violations of the Standards of Academic and Professional Conduct, will be noted in the student's ProgressIQ record, and will be grounds for a meeting with the Student Performance Committee (SPC). Consequences of this meeting may include placing the student on conduct probation or conduct suspension. If a student is reported as having arrived late to a class three times without an excuse, a note will be made in their ProgressIQ indicating their lack of promptness. Additionally, students with more than six unexcused tardies will be viewed in violation of the Standards of Academic and Professional Conduct and will be called for a meeting with the SPC. Consequences of this meeting could include placing the student on conduct probation or conduct suspension.

Vacation

Students receive three weeks' vacation each year; two weeks over the Winter Break and one week for Spring Break. Students may not expect to take more time than this and may not leave early or return late from the break. Vacations are not provided during academic semesters.

Time off Requests

The GCBS recognizes that occasionally a student must miss a mandatory curricular activity due to a required or unavoidable circumstance. If you need to be excused for any length of time, you must submit your request using the Time-Off Request (TOR) Form available from the Director of Student Affairs.

Timeframe for Submitting Requests

Planned absences (known in advance of the curricular activity): Examples include scheduled religious observances, interviews, conferences (see additional requirements below), immediate family weddings/funerals/graduations, surgeries, and other medical procedures that cannot be done during academic breaks. The TOR Form and all necessary documentation must be submitted no less than 30 days prior.

Unplanned absences (known just prior to the curricular activity): Examples include acute personal illness, a traffic accident, acute illness, or death of a family member. The TOR Form must be submitted by the end of the scheduled curricular activity. If documentation is not available at the time, the TOR is submitted, documentation must be submitted prior to the scheduled make-up opportunity, or within 72 hours (whichever comes first). Requests may not be approved if documentation is received after 72 hours.

Make-Up Work

Please note that while make-up work is always offered for exams, some courses have established procedures for missing a class or a quiz (e.g., the lowest quiz grade is dropped) in which case no make-up is offered even if the absence is excused. In other cases, make-up work may not be possible due to the nature of the activity. If you are concerned about whether make-up work will be offered for the

assignments you will miss during your approved absence, we encourage you to consult the syllabus, which will articulate the policy for the course.

The timeframe for make-up examinations is determined by the course director in conjunction with the Director of Student Affairs. Make-up examinations are scheduled no more than 72 hours after the original test date. If a student is unable to complete the make-up opportunity at the scheduled time, the student must submit another TOR Form. If a student is granted an excused absence for a make-up examination, they will receive an incomplete in the course and given the opportunity to complete the exam at the end of the academic year. If a student does not request an excused absence prior to the make-up exam, they will be subject to the conditions of an unexcused absence and referred to the Student Performance Committee.

If approved for conference travel, students are eligible for make-up work if the activity occurred during their time away from campus. Depending upon conference length and exam timing, students may also request to be excused from taking an exam that occurs immediately after their return from the conference. As with the actual conference dates, students must also submit, no less than 30 days prior to departure, a second TOR Form for the exam day. If approved, the student is only excused for the exam itself and must attend all other curricular activities for the day.

Academic Advising

The Director of Student Affairs will act as academic progress and pre-professional advisor to all enrolled students. The Director advises enrolled MSMS students on graduate program and professional school applications and provides students with feedback on essays, choice of schools, timing of application and taking of MCAT, DAT and other standardized exams and pre-professional activities, including interviewing skills and shadowing. The Director of Student Affairs coordinates the information gathering and authoring of committee letters of recommendation, for students whose professional applications require them.

Enrolled students will be assigned a faculty advisor during the fall. The faculty advisor-student relationship can become valuable throughout the MSMS program. It provides an opportunity to develop sustained individual contacts between faculty and students on both academic and personal levels.

Research Requirements

MSMS candidates will choose a topic for their research project in consultation with the course director. They will be expected to document their research proficiently via a poster and an oral presentation.

Issues/Dispute Resolution Procedure

When an issue or dispute arises between students, the issue/dispute resolution process starts with communication among the involved students. If the problem is not resolved, the matter should be brought to the Director of Student Affairs and the Associate Dean of Academic Affairs, followed by the GCBS Dean. If the matter has not been resolved at those levels, the final arbiter is the Provost/COO.

When an incident arises involving a faculty member, the first step in the issue/dispute resolution process is discussion with the faculty member. If the matter is not satisfactorily resolved at that level, the matter should be referred to the Associate Dean of Academic Affairs, and GCBS Dean, in that order. The final arbiter is the Provost/COO.

When an incident arises involving a staff member, the dispute resolution process begins with the Director of Student Affairs, followed by the Associate Dean of Academic Affairs, then the GCBS Dean. The Office of Human Resources is the final arbiter.

Failure to follow this sequence of steps will only serve to delay the appropriate resolution of the issue or dispute as the matter will only be referred back to the correct level in this chain of responsibility.

Standards of Academic Integrity, Professionalism and Student Conduct

The University Standards of Academic Integrity, Professionalism and Student Conduct, can be located in the University section of the 2018/2019 catalog. The standards outlined below are in addition to those outlined in the University Catalog. Students are expected to be aware of, and abide by, both University and applicable College policies.

GCBS Honor Code

Honesty and integrity are among the most valued traits of academic researchers and health care professionals. Each student is expected to assume personal responsibility for those traits. Academic dishonesty includes cheating, plagiarism, using unauthorized resources during examination(s), sabotaging other students and mentors research, as well as signing another person's name to an attendance or examination document. Matters of academic dishonesty and professional misconduct will be handled consistently with the University's guidelines for hearings involving alleged violations of the standards of professional conduct as described in the University's General Academic Policies and Procedures. Any individual who witnesses or becomes aware of a possible violation of the Honor Code is bound to report the incident. Staff or students must report the incident to a faculty member and faculty members must report the incident to the GCBS Dean.

MSMS Professional Dress and Behavior

Students are expected to dress in business casual attire (including a clean and pressed white coat when applicable) and act appropriately at all times, including lecture, lab, and on/off campus events. Students are expected to follow all rules established by faculty and preceptors in the classroom, during clinical skills labs, at rotation and research sites, and during College-sponsored events. Students will maintain a professional attitude/demeanor at all times when communicating as a graduate student. Violations of the MSMS Professional Dress and Behavior policy will be noted in the student's APP and will be grounds for a meeting with the SPC.

Respect

Students will show respect to their fellow classmates, the staff, the faculty, and other colleagues. Students will formulate constructive evaluation of others' performance and will communicate it in a professional manner. Students will use professional language at all times when communicating as a graduate student. Students will display sensitivity towards other cultures, races, religions, genders and sexual orientations. Students will display a positive attitude when receiving constructive feedback. Students will strive to resolve conflict in a respectful manner.

Accountability

Students will acknowledge their limitations and seek help from an appropriate source when their knowledge, skills, abilities or judgment are inadequate for the academic or professional circumstance. Students will assume responsibility for their actions. Students will acknowledge academic priorities over professional and personal activities. Students will honor their commitments to others.

Excellence

Students will exhibit their best effort in all academic and professional activities and endeavors. Students will commit to continual self-assessment, development, and lifelong learning. Students will consult with faculty when professional or personal activities conflict with academic responsibilities and give due

consideration to their recommendations. Students will contribute to an environment conducive to learning.

Student Conduct Violations

Upon receipt of an allegation of misconduct, the GCBS Dean will address the matter directly, unless the student requests a hearing, or will forward the matter to the Student Performance Committee to facilitate a student conduct hearing in accordance with the University Catalog. Potential sanctions could include placing the student on probation; requiring the student to undertake specific remedial activities, suspension for a defined period of time, or dismissal from the program. Decisions of the Dean in matters of conduct may be appealed following the procedure outlined in the 'Student Appeal Process' section of the University Catalog.

Standards of Academic Progress

To be considered making satisfactory academic progress and to be considered in good academic standing, MSMS students:

- Will have an overall GPA of 2.75 or above.
- Will complete the coursework for degree in two semesters unless a leave of absence is granted or remediation of a course is required. If remediation is required, a student may have up to six (6) months additional time to complete their degree and be considered to be making satisfactory academic progress.

Student Performance Committee

The Graduate College of Biomedical Sciences Student Performance Committee (SPC) is charged with the following responsibilities: (a) to review at the end of each semester the academic achievement and comprehensive evidence of progress of all students who are pursuing the MSMS degree (particular attention will be given to students in academic difficulty as their grades are made available to the SPC by the Registrar and/or course faculty); and (b) to receive reports from the Director of Students Affairs and/or the Associate Dean of Academic Affairs regarding any student whose professional or personal conduct is deemed unsatisfactory. Appropriate professional and personal conduct is defined by the University's and College's Standards of Academic Integrity, Professionalism and Student Conduct. At the time of the semester evaluation of each student by the GCBS SPC, if a student is found not to be meeting satisfactory academic progress because of failure to meet GPA requirements or time to degree limit is exceeded, the student may be subject to either dismissal or administrative withdrawal.

Graduation

A student will be recommended for the MSMS degree provided the student:

1. Is not on probation or suspension, has completed all prescribed academic requirements with a cumulative grade point average of above 2.75, and has no outstanding grade of "I," "NCR" or "U."
2. Has demonstrated no serious deficiencies in ethical, professional, or personal conduct, as defined in University Catalog, "General Academic Policies and Procedures" section, which would make it inappropriate to award the degree of MSMS.
3. Has complied with all the legal, immunization, and financial requirements of the University as stated in the University Catalog.
4. Has attended in person and participated in the Commencement ceremony at which time the MSMS degree is conferred. Unless special permission has been granted by the Dean, each student must participate in his or her respective commencement ceremony. Requests for excusal will only be granted for extenuating circumstances, such as a prior military commitment.

Students may participate in commencement activities provided they will complete all requirements of the program by December 31 of that calendar year. No student will receive his or her degree until the student has completed all requirements for graduation. Degrees will be dated as appropriate to completion date.

Adverse Actions

Probation

The Chair of the SPC will automatically place students on academic or conduct probation under the following circumstances:

- A student earns a failing (“U”) grade in any course. The student will remain on academic probation until the course is satisfactorily remediated.
- A student’s cumulative GPA is below 2.75 at the end of any academic term in the MSMS program.
- Failure to perform in a professional manner.
- Serious deficiencies in ethical or personal conduct.

The GCBS Associate Dean of Academic Affairs will notify the student in writing of the action. When a student has been placed on probation, the following outcomes will result:

- The student may not hold office in any University or College organization. Within 2 weeks of the date that the student receives notification of his/her probation, the student must fill out a Student Success Plan Form available from the Director of Student Affairs.
- The student may not receive funds to travel to any conference(s) and, typically, a TOR will not be approved for these requests.
- The Director of Student Affairs and the Learning Enhancement and Academic Development (LEAD) office staff will meet with the student to develop a plan of action. The student must obtain a signature from the LEAD office documenting agreement on the Student Success Plan.
- The student’s faculty advisor and the Director of Student Affairs will review the student’s proposed Action Plan, and the student must obtain a signature from the faculty advisor and Director of Student Affairs documenting agreement on the Action Plan. The Director of Student Affairs will keep a copy of the plan for the student’s file.

Students on probation will be given up to the time limit of the program to raise their cumulative GPA to the required standard of 2.75 or above. Meeting the appropriate GPA and/or conduct requirements will result in the lifting of the probation status.

Financial Aid Warning Policy

If a student is not achieving satisfactory academic progress (SAP) they may be placed on “Financial Aid Warning” status for the next payment period and continue to receive Title IV aid for that period. Students who fail to make SAP by the end of that payment period lose Title IV aid eligibility.

It is the policy of the Financial Aid Office (FAO) that once a student has been placed on academic probation for not meeting SAP standards as defined by the college, the FAO will automatically place the student in a Financial Aid Warning status. During the next academic term if the student does not meet SAP standards and the college places the student on academic suspension the student will no longer be eligible for financial aid. If the student appeals the academic suspension and the appeal is approved, financial aid will

be reinstated. If the student is directed to audit courses those courses may not be covered by financial aid.

Tutorial Assistance Program

A Tutorial Assistance Program (TAP) has been established to assist students experiencing academic difficulty. Students will be recommended for this program by a faculty member or the Director of Student Affairs. Students may self-identify to TAP to receive assistance. The tutors will be chosen on the recommendation of the faculty in each discipline. Group tutoring is the methodology most used by the TAP department. For assistance, contact the Learning Enhancement and Academic Development Office (LEAD).

Remediation

The educational objectives that underlie remedial teaching and evaluation should be the same as the educational objectives that underlie regular courses in the curriculum. MSMS students, who receive a “U” or ‘NCR’ grade in a course or a cumulative GPA below a 2.75, will be reviewed by the SPC. Where deemed appropriate, the SPC, after consultation with the course instructor, course coordinator, and/or the GCBS Associate Dean of Academic Affairs may recommend any one of the following options for remediation:

- Completion of a comprehensive examination.
- Completion of a series of exams.
- Repeating the course.

The score/grade achieved by remediation will be the score/grade recorded. The grade achieved by remediation will be re-recorded on the transcript next to the original grade.

If a student is directed to repeat a course, the grade for the repeated course will be recorded on the official transcript. Only the most recent grade received for a repeated course will be included in the student’s GPA calculation. Students will be charged full tuition for repeated coursework.

Recommendations regarding remediation will be made on an individual basis after considering all pertinent circumstances. The final decision will be made by the GCBS Dean, based upon the recommendation of the SPC. Course remediation by exam(s) will take place during the summer following the academic year in which the student failed the course. Remediation by repeating the course will take place at the time that the course is offered during the following academic year. All summer remediation exams will take place no sooner than June 1 and no later than August 1 of the following summer after the student has failed a course. Students who require remediation but are unavailable on the designated examination date will not be allowed to progress in the curriculum and will be placed on academic suspension. The grade either earned upon remediation of the course, by exam or repeating the course, will replace the original course grade in the final GPA calculation.

A student who is required to remediate a course must be notified in writing by the GCBS Dean (or his/her designee) at least 15 working days prior to the remediation date, or within 15 working days after the close of the academic year in which the student is presently enrolled, whichever comes first. Notification must either be sent by Certified Mail or hand-delivered to the student and must be acknowledged with the signatures of the GCBS Dean (or his/her designee) and the student.

Only students who have failed a course, or otherwise earned a “U” or “NCR” will be allowed to remediate a course. At no time will a student with a passing grade (C or better) be allowed to remediate a course.

Repeating Course(s) for GPA Improvement

Students will not generally be allowed to repeat any courses they have completed and passed (earned a grade of C or better). If, for some extenuating circumstance, the student feels it is necessary to do so, he/she must petition by memo or letter the SPC and include a memo/letter of support from the faculty member who teaches/coordinates the course they propose to retake. If the SPC recommends approval of the petition and the GCBS Dean approves the petition, the student will be able to repeat a course.

The student will be responsible for paying tuition for the repeated course on a per unit basis calculated from the MSMS annual tuition for the year in which the student is repeating the course. The grade for the repeated course will be recorded on the transcript and does not replace the original grade received for the course. Only the most recent grade received for a repeated course will be included in the student's GPA calculation. This policy does not apply to students who have graduated from the MSMS program.

Dismissal

The University may require withdrawal at any time it deems necessary to safeguard its standards of scholarship, conduct, and orderly operation. A student may be permanently dismissed from the program if the student fails to accomplish course-learning objectives and/or fails to achieve academic expectations even after granted the opportunity to repeat coursework. Any student permanently dismissed from the program is not eligible for Title IV, HEA programs. A student may be permanently dismissed when:

- A student earns a failing grade ("U" or "NCR") in any course that the student has repeated
- A student earns more than two failing grades ("U" or "NCR")
- A student currently repeating coursework due to sub-standard academic performance is found in violation of the College's Standards for Professional Conduct at a level that merits course failure or repeating the course.
- Failure to perform in a professional manner.
- Serious deficiencies in ethical or personal conduct.

Student Appeal Process

In accordance with Western University of Health Sciences' policy, the GCBS Dean's decision may be appealed by the student to the Provost of Western University of Health Sciences. For additional information, please see the 'Student Appeal Process' section of the University Catalog.

Evaluation and Grading

Master of Science in Medical Sciences (MSMS) Program Learning Outcomes

Critical Thinking

- Graduates will demonstrate the knowledge necessary to interpret critically current research results in biomedical sciences.
- Students are able to assess critically their own study skills and strategies.

Interpersonal Communication Skills

- Graduates will demonstrate the ability to communicate, in written form, about current issues in biomedical sciences in a manner acceptable to peers, clinical professionals, and the public.
- Graduates will demonstrate the ability to communicate verbally about current issues in biomedical sciences in a manner acceptable to peers, clinical professionals, and the public.

Breadth and Depth of Knowledge in Biomedical Sciences

- Graduates will possess a solid grounding in the scientific knowledge and methods to be applied throughout their careers.
- Graduates will demonstrate knowledge of scientific principles and methods.

Collaboration Skills

- Graduates will effectively collaborate with colleagues and staff in research, teaching and clinical settings.

Grading Scale

Final course grades are given based upon the traditional 4-point letter system, as follows:

<u>Grade</u>	<u>Equivalent</u>	<u>GPA Points</u>
A	Outstanding	4.00
A-	Excellent	3.70
B+	Very Good	3.30
B	Good	3.00
B-	Above Average	2.70
C+	Satisfactory	2.30
C	Marginally Passing	2.00
U	Unsatisfactory	0.00
CR	Credit	N/A
NCR	No Credit	N/A

ADMINISTRATIVE GRADES

<u>Grade</u>	<u>Equivalent</u>	<u>GPA Points</u>
AU	Audit	N/A
I	Incomplete	N/A
W	Withdrawal	N/A
M	Missing	N/A

Incomplete

An Incomplete grade "I" will only be assigned to students whose health and/or personal responsibilities prevent him or her from completing the requirements of the course. A student may remove an incomplete by completing course requirements within 6 weeks after the end of the semester when the course took place, or the final grade will be permanently recorded as a "U." The instructor must certify any grade changes. The "I" grade will remain on the student's transcript, along with the final grade assigned by the instructor.

Grade Reports

Official grades are turned in to the Registrar by the Graduate College of Biomedical Sciences, at which time the online student records system, BanWeb, is updated. Official grade reports and unofficial transcripts will be available on the BanWeb student records system throughout the academic year. No course grade will be changed unless the instructor certifies in writing that an error in computing or recording the grade has occurred or that the student has completed course requirements for an incomplete grade or remediated grade.

Credit Hour Calculation

The Graduate College of Biomedical Sciences courses are rated at one credit hour for every 15 contact hours.

Grade Appeals Process

If a student believes there is just cause to dispute a grade for a course, the procedure is as follows: Within five (5) days of receipt of the course grade, the student must make an appointment with the course instructor(s) who issued the grade. Upon written request from the student, the course instructor(s) shall

review the case with the student, and a decision shall be made by the course instructor to affirm or modify the grade. Within ten (10) working days of the student's written request, the course instructor shall notify the student in writing of the decision. If warranted, a copy of the Grade Change Form shall be sent to the student and the Director of Student Affairs.

Within five (5) working days following written notification to the student regarding the instructor's decision, the student may appeal the decision in writing to the Associate Dean of Academic Affairs. The appeal request must be accompanied by a narrative explaining the basis for the appeal. The narrative should fully explain the student's situation and substantiate the reason(s) for advocating a review of the prior decision of the instructor. The Associate Dean of Academic Affairs may grant an appeal only if a claim of (1) bias, (2) the appearance of new material and documentable evidence that was not available at the time of the instructor's decision, or (3) procedural error that unfairly affected the decision-making process is substantiated by the Associate Dean of Academic Affairs. Upon written request from the student with a valid appeal rationale, the Associate Dean of Academic Affairs shall review the case and make a recommendation to the GCBS Dean. Within seven (7) working days, the GCBS Dean shall issue a decision in writing to the student, which may affirm, modify, or reverse the previous action of the instructor. The Dean's decision is final in all course grade appeals.

Curriculum Organization

To graduate, students must complete a minimum of 46.50 credit hours.

Fall Semester		
Subject/Course #	Course Title	Credit Hours
GCBS 5020	Critical Learning & Communication Skills in the Health Prof. I	2.00
GCBS 5030	MSMS Intensive Summer Anatomy Course	8.50
GCBS 5035	Head and Neck Anatomy OR	
GCBS 5071	Research I	2.00
GCBS 5041	Molecular and Cellular Basis of Life	4.00
GCBS 5042	Physical and Biochemical Systems	4.00
GCBS 5061	Intro to Clinical Research & Evidence-Based Decision Making	2.00
GCBS 5070	Research I	4.00
Fall Total Credit Hours:		26.50
Spring Semester		
Subject/Course #	Course Title	Credit Hours
GCBS 5021	Critical Learning & Communication Skills in the Health Prof. II	2.00
GCBS 5071	Research - Capstone	4.00
GCBS 5075	Physiology of Human Visceral Systems	4.00
GCBS 5079	Microbiology: Biological Systems in Human Disease	4.00
GCBS 5082	Clinician and Society	3.00
GCBS 5083	Clinical Environments in Health Care	3.00
Spring Total Credit Hours:		20.00
Program Total Credit Hours:		46.50

Course Descriptions

All courses are awarded letter grades, except when indicated otherwise.

GCBS 5020 Critical Learning and Communication Skills in the Health Professions I (2.0 credit hours)

The first part of a two-semester sequence intended to expose students to myriad techniques and approaches for being a successful graduate student and for becoming a life-long learner. Students will have the opportunity to study and apply practical techniques to maximize comprehension, retention of material, critical and abstract thinking, interpersonal communication, and team-based learning. In addition, students will explore myriad aspects of group performance. The course will also emphasize numerous aspects of graduate-level education including the management of time and stress; increasing focus, concentration, motivation, and memory; study skills and strategies; learning assessment; and approaches to test taking.

GCBS 5021 Critical Learning and Communication Skills in the Health Professions II (2.0 credit hours)

The second semester of a two-semester sequence intended to expose students to myriad techniques and approaches for being a successful graduate student and for becoming a life-long learner. Students will have the opportunity to study and apply practical techniques to maximize professional development. Students will explore aspects of group performance; including peer reviews, learning assessments, situational judgement, critical analysis, inter-professional education, and special group projects. The course will emphasize effective written and oral communication with a capstone presentation.

GCBS 5030 Master of Science in Medical Sciences - Intensive Summer Anatomy Course (MSMS-ISAC) (8.5 credit hours)

The Master of Science in Medical Sciences (MSMS) Intensive Summer Anatomy Course (ISAC) is an accelerated equivalent of the post-cranial portion of DO5030, given in 6.5 weeks. Material covered in this regional approach includes the shoulder and upper limb, thorax and its viscera, abdomen and its viscera, the pelvis, its viscera, the male and female perineum and lower limb. The objectives include the mastery of nomenclature and spatial relationships of human anatomical systems. It is expected that students will understand the anatomical portion of selected clinical correlations. Course consists of didactic and practical components, and includes dissection of human cadavers. Assessment is by means of written and laboratory practical examinations, as well as regular quizzes.

GCBS 5035 Head and Neck Anatomy (2.0 credit hours)

This course is a continuation of the intensive summer anatomy course open to students by permission of instructor only. Through lecture and laboratory, students are introduced to the anatomy of the head and neck. Particular attention is paid to the cranial nerves, both their normal function and the numerous clinical syndromes that affect them.

GCBS 5041 Molecular and Cellular Basis of Life (4.0 credit hours)

This course presents an integration of molecular biology, cellular physiology, and metabolism in prokaryotes and eukaryotes as well as an introduction to host defense responses within the context of their clinical applications of basic biomedical sciences. Students will develop an understanding of the principles of molecular biology, including DNA replication and expression of genetic information. They will learn the basic concepts of cellular physiology and metabolism in both prokaryotes and eukaryotes and understand the major types of tissues/cells of the human body as well as the basic function of each tissue/cell type.

GCBS 5042 Physical and Biochemical Systems (4.0 credit hours)

The overall goal of this course is to introduce students to the most important concepts and principles of biological chemistry. Topics previously covered in earlier chemistry and biology courses will be expanded and placed in the context of the living organism. The key objective is to understand and be able to apply concepts rather than merely memorize information. Subject areas covered include macromolecular structure, reactivity and function, thermodynamics, carbohydrate, lipid, amino acid metabolism and nucleotide metabolism, and metabolic interrelationships between organs and pathways. Students attending this course will develop an understanding of the principles of biological chemistry, including thermodynamics, kinetics and macromolecular structure, function and reactivity. They will learn the basic concepts of metabolism in human systems, in both health and disease and demonstrate skills in the interpretation of contemporary biochemical data on each of the major classes of biological macromolecules, as well as in the interpretation of clinical data relating to the understanding of the roles of biomolecules and the integration of metabolism.

GCBS 5061 Introduction to Clinical Research & Evidence-Based Decision-Making (2.0 credit hours)

This course aims to introduce students to the conduct of basic, translational, and clinical biomedical scientific research. In addition, participants will gain a broader understanding of research in the community and how to develop a research agenda from existing community-based programs. This is an introduction to several key concepts, and students are not expected to have a deep mastery of statistics, research methodology, or online bibliographic databases prior to taking the course. Students attending this course will be introduced to research methods including key statistical concepts, the IRB process, ethics in research, lab safety, HIPPA and oral and written presentations. Students will be linked with mentors appropriate to their research interests and will develop a precise question in the research context.

GCBS 5070 Research I (4.0 – 6.00 credit hours)

This course aims to enhance student confidence and understanding of the research underpinning that informs their future clinical practice. Additionally, it increases student capacity and confidence to utilize that understanding in the conduct of creative, problem solving. Students will be placed with a faculty advisor to participate in the process of original inquiry. Learning through faculty-mentored investigation allows students to put in practice the scientific concepts they are learning in their didactic courses deepening their understanding of the basic medical sciences necessary for the practice of health care. Students are expected to devote at least 10 hours of their week in this process and should be expected to proficiently document their research via an interim report, annotated bibliography of the key research articles, and to be able discuss in an oral presentation proficiently the research topic as well as the reasoning behind the inquiry and methodologies utilized in the research.

GCBS 5071 Research - Capstone (4.0 credit hours)

Building on GCBS 5070, emphasis will be placed on training students to appropriately utilize and evaluate the biomedical literature across health professions. Students are expected to devote at least 10 hours of their week in this process and should be expected to document, proficiently, their research via a final presentation.

GCBS 5075 Physiology of Human Visceral Systems (4.0 credit hours)

This course will examine human physiology of the endocrine, cardiovascular, respiratory, digestive, and urinary systems in an integrated fashion. The course will focus on the physiological interrelationships of body organ systems in the maintenance of homeostasis. The students will be introduced to pathophysiology of selected disease states. The students will also be introduced to pharmacological agents used as therapeutic, diagnostic, or experimental tools in disease states. Students will be expected to understand and communicate the physiological principles underlying the utility of pharmacological agents. The course will consist of both didactic and practical (that will focus on the quantitative aspects of physiology but will not involve a wet-laboratory) components.

GCBS 5079 Microbiology: Biological Systems in Human Disease (4.0 credit hours)

This course presents an integration study on the basics of microbiology, including microbial structure, function, metabolism, genetics, and the relationship of microbes with the host and host-defense mechanisms. In addition, the major pathogenic microbes (bacteria, viruses, fungi, and protozoa) and the diseases they cause will be discussed. The students will be expected to learn basic and clinical lab techniques as well as their application in the identification of various microbes.

GCBS 5082 Clinician and Society (3.0 credit hours)

The Clinician and Society course will provide the pre-health care professional student with the opportunity to experience and begin to understand the multi-faceted and complex nature of the health care professions as they relate to society. The student will gain insight into the many social components that both influence and shape health care practice and the societal perspectives that influence how the health care practitioner is perceived by society. At the end of this course, students will be able to describe the historical development of modern health care practice and the contributions of health care practitioners from antiquity to the present who made key contributions to the evolution of medicine and medical practice. Students will discuss the history of osteopathic medicine in the United States and the unique philosophical and practical contributions that Andrew Taylor Still made to medicine. The history of osteopathic medicine in California, as well as the history of podiatry, optometry, dentistry, and veterinary medicine will be covered. Major elements of medical professionalism why it is critical in the practice of the health sciences will be emphasized through the course.

GCBS 5083 Clinical Environments in Health Care (3.0 credits credit hours)

This course provides a critical experiential learning opportunity for the Master of Science in Medical Sciences specifically placing the clinical provision of care in its broader context, integrating both theory and practice. The learner constructs knowledge, attitudes, skills, competencies, and understanding through direct experience.

Honors and Awards

The following awards are considered for presentation to MSMS students annually:

- Community Service Award
- Dean's List
- Dean's Scholarship
- Poster Presentation Honors
- Provost's Scholarship

Academic Calendar

Fall 2018	
May 29, 2018	Orientation/Fall Classes Begin
July 4, 2018	Independence Day Observed – No Classes
August 6-10, 2018	WesternU Welcome Week
August 11, 2018	Convocation/White Coat Ceremony
September 3, 2018	Labor Day – No Classes
October 8, 2018	Columbus Day – No Classes
November 21, 2018	Last Day of Classes - Thanksgiving Recess Begins @ 5:00 p.m.
November 26, 2018	Fall Classes Resume
December 14, 2018	Fall Classes End
December 22, 2018	Winter Recess Begins
Spring 2019	
January 7, 2019	Spring Classes Begin
January 21, 2019	Martin Luther King Day – No Classes
February 18, 2019	President’s Day – No Classes
March 25, 2019	Spring Break Begins
April 1, 2019	Spring Classes Resume
May 18, 2019	Spring Classes End
May 22-24, 2019	Commencement