



UNIVERSITY *of* MARYLAND
SCHOOL OF MEDICINE

GRADUATE PROGRAM IN LIFE SCIENCES

Cellular & Molecular Biomedical Sciences MS

Student Handbook

2023-2024

Graduate Program in Life Sciences
CMBS MS - Program Handbook

University of Maryland, Baltimore

Table of Contents

UMB Academic Calendar 2023-2024.....	3
Leadership & Key Contacts.....	5
Graduate Program in Life Sciences Leadership.....	5
Cellular & Molecular Biomedical Sciences MS Program Leadership	5
Cellular & Molecular Biomedical Sciences MS Program Office	5
Welcome	6
Overview of the Cellular & Molecular Biomedical Sciences (CMBS) MS Program.....	6
Program Description.....	6
Expectations of Students	7
Expectations of Advisors & Mentors	8
Summary of Graduation Requirements	9
Academic Standards	9
Curriculum and Program of Study.....	10
CMBS MS Curriculum.....	10
Registration	12
Seminars.....	13
Non-degree Coursework	13
Changing a Schedule or Course Registration(s)	13
Waiving or Substituting Courses.....	15
Academic Policies and Procedures	15
Laboratory Rotations	16
Expectations and Opportunities	16
Selection Process.....	17
Forms & Processes	17
Responsibilities of the Lab Rotation	18
Thesis	19
Requirements	19
Mentor	19
Thesis Project	20
Thesis Committee.....	20
Thesis Proposal.....	20
Thesis Requirements	21
Final Exam	21
Thesis Defense and Examination Process	22
Final Approved Thesis.....	22
Graduation	23
Finances	23

CMBS MS Program Handbook
Graduate Program in Life Sciences

International Students	23
Applying to GPILS PhD Programs.....	23
Appendix A: Timeline for CMBS MS Degree Completion.....	25
Appendix B: Sample Program of Study.....	30
Appendix C: Frequently Used Contacts and Phone Numbers.....	31
Appendix D: Forms (samples).....	33

UMB Academic Calendar 2023-2024

<https://www.umb.edu/registrar/academic-calendar/>



Academic & Registration Calendar 2023-2024

Summer 2023			
	Registration Begins	Registration Ends	Instruction Begins
Dentistry	April, 2023	May 31	June 1
Dental Hygiene, CDHL	April, 2023	May 31	June 1
Genomic Counseling	April, 2023	May 31	June 1
Graduate	April, 2023	May 31	May 31
Medical Technology	April, 2023	May 31	June 1
Nursing	April, 2023	June 2	June 5
Pharmacy	April, 2023	May 31	June 1
Physical Therapy, Year 1	April, 2023	May 31	June 1
Physical Therapy, Year 2	April, 2023	May 31	June 1
Physical Therapy, Year 3	April, 2023	May 31	June 1
Social Work	April, 2023	May 31	June 1

Memorial Day	May 29, 2023 (Monday)
Graduation Application Deadline	June 12, 2023 (Monday)
Juneteenth Day	June 19, 2023 (Monday)
Independence Day	July 4, 2023 (Tuesday)
Term Ends; Graduation Date	July 28, 2023 (Friday)

Fall 2023			
	Registration Begins	Registration Ends	Instruction Begins
Dentistry, Years 1 & 2	April, 2023	August 11	August 14
Dentistry, Year 3	April, 2023	May 26	May 30
Dentistry, Year 4	April, 2023	May 20	May 22
Dental Hygiene, Entry Level I & CDHL	April, 2023	August 11	August 14
Dental Hygiene, Entry Level II & CDHL	April, 2023	July 3	July 6
Dental Hygiene, Degree Completion	April, 2023	August 11	August 14
Dental Postgraduate	April, 2023	July 3	July 6
Dentistry, Oral Health Science	April, 2023	August 25	August 28
Genomic Counseling	April, 2023	August 25	August 28
Graduate	April, 2023	August 25	August 28
Graduate School A	April, 2023	August 25	August 28
Graduate School B	April, 2023	August 25	October 23
Law, Year 1 & Clinic/LTP	April, 2023	August 18	August 21
Law, MSL	April, 2023	August 18	August 28
Law, All Others	April, 2023	August 18	August 31
Medicine, Year 1	April, 2023	July 31	August 1
Medicine, Year 2	April, 2023	July 31	August 1
Medicine, Years 3 & 4	April, 2023	May 19	May 22
Medical Technology	April, 2023	August 25	August 28
Nursing	April, 2023	August 25	August 28
Pharmacy	April, 2023	August 21	August 21
Physical Therapy, Year 1	April, 2023	September 1	September 5
Physical Therapy, Year 2	April, 2023	August 25	August 28
Physical Therapy, Year 3	April, 2023	October 2	October 3
Public Health	April, 2023	May 19	May 22
Social Work	April, 2023	August 18	August 21

Labor Day	September 4, 2023 (Monday)
Graduation Application Deadline	September 12, 2023 (Tuesday)
Thanksgiving Recess	November 23-26, 2023 (Thursday-Sunday)
Term Ends; Graduation Date	December 22, 2023 (Friday)

CMBS MS Program Handbook
Graduate Program in Life Sciences



Winter 2024			
	Registration Begins	Registration Ends	Instruction Begins
All Schools and Programs	November, 2023	January 2	January 3

MLK Jr. Day January 15, 2024 (Monday)
Term Ends January 26, 2024 (Friday)

Spring 2024			
	Registration Begins	Registration Ends	Instruction Begins
Dentistry, DDS, DH/CDHL/PG	November, 2023	January 2	January 2
Dentistry – Oral Health Science	November, 2023	January 26	January 29
Graduate	November, 2023	January 22	January 22
Graduate School B	November, 2023	January 12	March 11
Law	November, 2023	January 5	January 8
Medicine, Year 1	November, 2023	January 2	January 2
Medicine, Year 2	November, 2023	January 2	January 2
Medicine, Years 3 & 4	November, 2023	January 2	January 2
Medical Technology	November, 2023	January 12	January 16
Nursing	November, 2023	January 19	January 22
Pharmacy	November, 2023	January 16	January 16
Physical Therapy, Years 1 & 2	November, 2023	January 2	January 2
Physical Therapy, Year 3	November, 2023	January 5	January 8
Public Health	November, 2023	January 2	January 2
Social Work	November, 2023	January 12	January 16

MLK Jr. Day January 15, 2024 (Monday)
Graduation Application Deadline February 5, 2024 (Monday)
Spring Break March 17-24, 2024 (Sunday-Sunday)
Term Ends May 15, 2024 (Wednesday)
Commencement/Graduation Date May 16, 2024 (Thursday)

NOTE: Consult with your school or program for specific registration dates and times.

Leadership & Key Contacts

Graduate Program in Life Sciences Leadership

Jessica Mong, PhD

Associate Dean for Graduate and Postdoctoral Studies
Professor, Department of Pharmacology
jmong@som.umaryland.edu

Elice García-Baca, MBA

GPILS Program Manager
egarcia-baca@som.umaryland.edu

Cellular & Molecular Biomedical Sciences MS Program Leadership

Ivy Dick, PhD

Program Director
Howard Hall, Room 511
Cell: (410) 760-8807
ied@som.umaryland.edu

Elice García-Baca

GPILS Program, Manager
BRB Room 1-005D
Office: (410) 706-6042, Cell: (650) 814-4313
egarcia-baca@som.umaryland.edu

Cellular & Molecular Biomedical Sciences MS Program Office

Bressler Research Building, Room 1-005D
655 W. Baltimore Street
Baltimore, MD 21201
Fax: 410-706-6040
<http://lifesciences.umaryland.edu/CMBS/>

Welcome

These guidelines are intended to supplement the regulations of the Graduate School of the University of Maryland, Baltimore (UMB) and the Graduate Program in Life Sciences (GPLS). Items covered in this handbook are subject to change, and all questions should be directed to the Senior Academic Services Specialist.

Students are strongly encouraged to become familiar with the policies outlined on the Graduate School's website at <http://www.graduate.umaryland.edu>, and on the GPILS website at <http://lifesciences.umaryland.edu>. Additional regulations and expectations described in this handbook are program-specific and are designed to answer most questions students may have regarding the program and course of study.

Overview of the Cellular & Molecular Biomedical Sciences (CMBS) MS Program

The Cellular and Molecular Biomedical Science (CMBS) MS program at the University of Maryland has a core curriculum incorporating subjects of importance to all students in the fields of cell and molecular biology. The subjects are then complemented by specific courses in each student's area of research and interest. The CMBS MS program emphasizes medically-relevant scientific research and education, utilizing state-of-the-art resources. The program is primarily designed as a 2-year curriculum for full-time students, and may be completed within 5 years for part-time students. Students will become fluent in the study and implementation of biomedical research and will graduate as prepared and skilled researchers for their careers. CMBS graduates go on to have either a career in government or private industry, or to advance their education in PhD or MD degrees.

Program Description

Cellular and Molecular Biomedical Science combines areas of biomedical study, including cancer biology, human genetics, molecular and cell biology, pathology, pharmacology, neuroscience, and physiology into a unique interdisciplinary graduate training program. Specifically designed to develop scientists for the post-genomic era, CMBS students will gain knowledge, research skills, and familiarity with biomedical tools and methodologies to solve important and timely questions in biomedical science.

Customizable Program

The flexibility of the program allows students the ability to customize it to their particular areas of interest. On-campus lab rotations as well as thesis research projects provide an integrated variety of studies in molecular medicine.

World-Class Faculty

Working with faculty who mentor students in a close-knit learning environment, the program involves technical classes and specialized labs that prepare graduates for an exciting career in medicine, research, agriculture, and food technology, building valuable skills, practical experience, and the perfect preparation for a doctoral program and employment. The CMBS master's degree lets students work alongside faculty, graduate students, and fellow undergraduates in research labs, to expand their understanding of molecular biology and promote innovative thinking.

Why Pursue a Master's in CMBS at the University of Maryland?

The CMBS Program is a flexible program tailored to the individual needs of its students. It provides graduate training to prepare students to continue their studies in PhD programs, Medical School, Dental School, or other professional programs or for positions such as laboratory managers and skilled technicians in academia, industry or national and federal research laboratories. Students have the option to select either a thesis or non-thesis option.

Graduates will also be prepared to fill the increasing demand for skilled laboratory managers and basic and translational scientific researchers in a variety of professional careers. This program is also a great option for current industry employees and professional degree holders (MD, RN, PharmD, DDS) looking to advance their careers in the field of contemporary research.

Expectations of Students

Students in the CMBS MS program are part of a professional community of scientists. The training students receive will provide numerous opportunities for scientific collaboration and interaction with other scientists, both within and outside of the program. Listed below are the expectations of conduct that apply to all members of this community. Adhering to these expectations promotes a productive and positive experience for everyone.

Professionalism

- Maintain a high level of professionalism at all times in terms of communication, behavior and dress.
- Treat all faculty, staff and fellow students with respect.
- Keep your physical surroundings clean and in order. If you are sharing space (e.g., classrooms) or equipment (e.g., computers) with other individuals, always leave the area neat, clean and secured.
- Communicate concerns about the program in a respectful and professional manner.

Responsiveness

All communications will be sent to your University of Maryland, School of Medicine email account. Always reply promptly to email from faculty and administrative staff.

- Notify Program Director, Senior Academic Services Specialist, course instructors, and mentors if there is a change in your email address or other contact information.

- Post an 'Out of Office' message if you will be away from your email for more than 24 hours.
- Respond promptly to requests for information.

Attendance

Attend scheduled classes, meetings, and departmental seminars/journal clubs.

- Inform instructors if you must miss a class.
- Arrange a weekly schedule and a vacation schedule with your rotation (or thesis research) mentor.

Full-Time Student Expectations

Include some sort of intro here.

- If a full-time student switches to part-time status, they must have this approved by the Program Director prior to doing so.

Part-Time Student Expectations

The CMBS program provides plenty of flexibility in allowing students to complete the program part time over the course of 5 years, however students choosing this option must be aware of the following requirements:

- Part-time students are accepted on a case-by-case basis, and enrollment and registration must be approved by the Program Director.
- Part-time students must receive permission from the Program Director to switch from part-time status to full-time status prior to doing so.
- Students must be prepared to commit a minimum of 20 hours per week to the program. Depending on the student's background and skillset more time may be required.
- A plan for completion of the program as a part-time student must be approved by the Program Director.
- The CMBS and GPILS programs do not offer night or weekend courses. Students must commit to attending all classes which they are registered for during traditional daytime hours between 9:00 AM to 5:00 PM.
- Lab rotations and research are typically completed during business hours, 9:00 AM to 5:00 PM, Mondays through Fridays. Part-time students are expected to observe these hours for research completion and participation.

Expectations of Advisors & Mentors

The role of the Academic Advisor, the Program Director and the Senior Academic Services Specialist is to serve as a resource for students as they make course selections, identify prospective rotations, choose a research topic and select a thesis mentor. Specific expectations and guidelines for student advising are as follows:

Time Commitment and Availability

The Academic Advisor will have regular contact with their students. At a minimum, advisors should meet with students once per semester. Advisors should also be available for student questions during the semester, either by email, telephone or in person.

Course Planning and Selection

The Academic Advisor should assist their students with course selection and planning. Course descriptions can be found in the Graduate School Catalog at <http://www.graduate.umaryland.edu/catalog/>. For information on courses offered in a given semester, the best resource is SURFS at https://surfs.umaryland.edu/SIMS/bwckschd.p_disp_dyn_sched.

Course requirements for the academic program and a list of suggested electives can be found in on [page 9](#) of this handbook.

Student Progress

Advisors will be familiar with their students' timelines and milestones so that they can provide guidance and assess each student's progress in courses, rotations, and identification of a research topic and advisor. The steps to completing the MS degree is detailed in this handbook.

Assistance in Identifying Rotations and Research Advisors

The Advisor will help the student focus their interests and suggest possible opportunities or faculty members who might serve as rotation mentors and/or research advisors.

Summary of Graduation Requirements

- Students must maintain a minimum cumulative GPA of 3.0 to meet academic standards.
- A minimum of 30 credits are required for graduation. Students must complete the required courses and the curriculum as detailed in the [CMBS MS Curriculum](#) section.
- Students must enroll in, and complete, CIPP 907 Research Ethics.

Please Note: A repeated course may only count once toward the 30-credit requirement.

Courses taken for audit do not count towards the 30-credit requirement for graduation.

Special Note on Courses Taken at UMB While Not Formally Matriculated as a CMBS MS

Degree Seeking Student: A limited number of course credits taken at University of Maryland, Baltimore prior to matriculation into the CMBS MS Program (e.g. 6 as a non-degree student, or 8 credits if the student has taken and successfully passed GPLS 601) may be applied toward the 30 total credits, provided the credits were completed not more than 5 years prior to the date of matriculation into the CMBS MS Program.

Academic Standards

The CMBS MS program follows standard Graduate School performance requirements regarding minimum grade point average, continuous enrollment, time to degree completion and academic integrity.

Students in the CMBS MS Program are required:

- To maintain a cumulative grade point average of 3.0 on a 4.0 scale. Final letter grades are assigned using a plus or minus grading system.
- Students may not receive more than one grade of B- (or lower) in required courses. If a student does receive more than one grade of B- or lower, they are required to retake the course and earn at least a grade of B.
- Students must repeat courses in which they receive a grade of D or lower.
- Students must register every fall and spring semester, unless on an approved Leave of Absence (LOA).
- A Leave of Absence (LOA) must be approved by the Program Director.
- All requirements for the CMBS MS degree must be completed within five years of matriculation.

All students are expected to meet the highest standards of integrity. For further details, please visit the Graduate School website on Academic Performance and Progress in Master of Science Programs at <https://graduate.umaryland.edu/Policies/>.

Curriculum and Program of Study

CMBS MS Curriculum

The CMBS MS program requires a minimum of 30 semester credits. Depending on the preference of the student there is a non-thesis and a thesis option of study.

Non-Thesis Option: Required Courses

The non-thesis option consists of a range of 14-19 credits in required courses that include laboratory rotations and focused course work. The remaining credits are to be fulfilled with elective courses approved by the Program Director, who serves as the non-thesis student's academic advisor. Each CMBS MS student will be provided an individualized Program of Study that will focus on their educational and professional goals.

Course Number	Course Name	Credits
CIPP 907.01	Research Ethics	1
Choose one		
GPLS 600.01	Cellular & Molecular Basis of Translational Research	5
GPLS 601.01	Mechanisms in Biomedical Science (Core Course)	8
GPLS 609.05	Lab Rotations CMBS MS <i>Option to take up to 9 credits with program director approval.</i>	6
GPLS 630.01	Fundamentals of Biostatistics	3
Choose one		
GPLS 690.01	Current Topics in Vascular & Stem Cell Biology	1
GPLS 691.01	Current Topics in Neuroscience	

GPLS 692.01	Current Topics in Genome Biology	
GPLS 693.01	Introduction to Molecular Microbiology and Immunology	
Total for Non-Thesis Option		10-19

Thesis Option: Required Courses

The thesis option is a research-based program in which the student selects a mentor and undertakes a research project culminating in a written thesis and public seminar. The thesis option consists of a range of 20-26 credits in required courses that include laboratory rotations and focused course work. The remaining credits are to be fulfilled with elective courses approved by the Program Director. Each CMBS MS student will be provided an individualized Program of Study that will focus on their educational and professional goals.

Please Note: Thesis students must be registered for at least 1 credit of course work in the final semester that they defend their thesis.

Course Number	Course Name	Credits
CIPP 907.01	Research Ethics	1
Choose one		
GPLS 600.01	Cellular & Molecular Basis of Translational Research	5
GPLS 601.01	Mechanisms in Biomedical Science (Core Course)	8
GPLS 609.05	Lab Rotations CMBS MS	3-6
GPLS 630.01	Fundamentals of Biostatistics	3
Choose one		
GPLS 690.01	Current Topics in Vascular & Stem Cell Biology	1
GPLS 691.01	Current Topics in Neuroscience	
GPLS 692.01	Current Topics in Genome Biology	
GPLS 693.01	Introduction to Molecular Microbiology and Immunology	
GPLS 799.01	Master's Thesis Research <i>Option to take up to 9 credits with program director approval.</i>	6
Total for Thesis Option		19-25

Highly Suggested Courses

Courses that fall in this category are not required, but if offered students are highly encouraged to take them.

Course Number	Course Name	Credits
N/A	Summer Bridge (Summer Prior to Starting CMBS MS Program)	0

Elective Courses

Elective options are listed below. All elective courses must be determined in conjunction with the Program Director, and courses that are not listed below will also require further approval. Courses without a GPLS, PREV, or TOXI prefix will require Program Director and instructor

permission. A **maximum** of two (2) elective courses without the GPLS, PREV, or TOXI prefix will be approved.

Course Number	Course Name	Credits
CIPP 932	Critical Issues in Health Care	3
GPLS 607	Principles of Pharmacology	3
GPLS 616	Molecular Mechanisms of Signal Transduction	3
GPLS 623	Molecular Toxicology	3
GPLS 625	Ion Channels	2
GPLS 641	Systems & Cognitive Neuroscience	4
GPLS 642	Nociception, Pain, and Analgesia	2
GPLS 645	Cell & Systems Physiology	3
GPLS 665	Cancer Biology: From Basic Research to the Clinic	3
GPLS 701	Advanced Molecular Biology	3
GPLS 702	Basic Immunology	3
GPLS 704	Principles of Virology	3
GPLS 709	Advanced Biochemistry	3
GPLS 710	Principles of Microbial Pathogenesis	3
GPLS 714	Muscle: Contractibility & Excitation-Contraction Coupling	3
GPLS 715	Muscle Cell Biology & Development	3
GPLS 716	Genomics & Bioinformatics	3
GPLS 717	Genomic Applications	3
GPLS 718	Programming for Bioinformatics	2
GPLS 721	Microscopy Fundamentals and Modern Imaging Applications	2
GPLS 725	Advanced Microbial Pathogenesis	3
GPLS 750	Current Topics in Molecular Medicine	2
GPLS 769	Advances in Immunology	2
GPLS 790	Advanced Cancer Biology	3
HGEN 601	Human Genetics I	4
TOXI 607	Forensic Toxicology	3
TOXI 625	Aquatic Toxicology	3

For course descriptions, faculty, meeting times and semester offered, please view the SURFS <http://www.umaryland.edu/surfs/>.

Registration

The Senior Academic Services Specialist will register all new incoming students for their first semester courses. After successful completion of the first semester, all students are responsible for their own registration, unless a Leave of Absence (LOA) has been approved.

The registration process is as follows:

1. Meet with Program Director and Senior Academic Services Specialist to discuss courses of interest and obtain approval.

2. Email list of approved courses to Senior Academic Services Specialist for final approval.
3. When the Senior Academic Services Specialist has unlocked the student's registration, the student will be notified via email.

Students must then login to SURFS to complete the registration process **at least 4 weeks** before the start of the semester. Instructions detailing this process will be emailed to the student's university email account.

Please Note: If there is a Hold of any nature on a student SURFS account, the student will not be able to register. All Holds must be resolved by the student. Instructions on how to contact the department that placed the Hold is provided to the student.

Seminars

Students will be required to attend a minimum of four seminars each semester, and they will be required to do a half-page write up on the seminar they attended. Questions that should be considered while attending the seminar and during the write-up are:

- What did you learn from this seminar?
- What was the major conclusion?
- What experimental techniques were used?
- What did you think of the talk?

You will be asked for the date of the seminar, the name of the speaker, and if the information is readily available, the name of the sponsoring program or department. Please keep in mind that four seminars are the minimum, and students are able to attend as many seminars as they would like.

Non-degree Coursework

The non-degree status is for students seeking to enhance their knowledge by completing one or more graduate courses, but who are not pursuing a degree. Should the student subsequently be admitted to the program, there is no assurance that credits earned as a non-degree student will be transferred. In cases where the program does grant such a request, no more than 6 credits (or 8 credits if the student has taken GPLS 601) will transfer for the degree.

Changing a Schedule or Course Registration(s)

Students must register for coursework each fall and spring semester to maintain eligibility for degree completion (registration is not required for summer or winter terms except under specific circumstances). Adjustments to course registrations should be made prior to the start of the semester and should be done in consultation with course instructors and/or Advisors and the Program Director. Following the start of the term, changes may only be made in accordance with stated Graduate School timetables. Further, students must file the necessary form(s) for registration changes with the appropriate university officials' signature(s) of approval before changes are complete or official.

Adding a Course

Week 1: Fall, spring or summer semester: Students may add course(s) through the end of Week 1 only. (Winter term: Students may add a course through the end of Day 2 only). Full refund will be given. Complete the ***Change in Registration Request form*** and obtain the necessary signatures.

Dropping a Course

Weeks 2 – 3: Fall, spring or summer semester: Students may drop course(s) through the end of week 3 with proper approvals and with no notation on their transcript (winter term, through end of day 2). Partial (80%) or no refund will be given depending upon the Drop date. Complete the ***Change in Registration Request form*** and obtain the necessary signatures.

Withdrawing from a Course

Weeks 4 – 8: Students may withdraw from a course(s) through the end of week 8 with instructor and advisor or Program Director approval. A notation of “W” will appear on the transcript. Withdrawn course(s) count as an attempt. No refund is given. Complete the ***Change in Registration Request form*** and obtain the necessary signatures.

Beginning the 9th week of the term (or from day 3 to end of winter term), students are not permitted to Drop or Withdraw from a course. The student must complete the course, negotiate/request an Incomplete, or request the instructor to grant a Withdraw Pass or Withdraw Fail (WP/WF). No refund is given. Complete the ***Change in Registration Request form*** and obtain the necessary signatures.

Withdraw Pass/Withdraw Fail

If a course withdrawal is approved beginning 9 weeks after the start of a fall or spring semester course or after the first two weeks of a summer course, the student will receive a withdrawal mark of “WP” or “WF” for each course attempted. A withdrawal mark of “WP” means that the student was passing the course at the time of withdrawal and a withdrawal mark of “WF” means the student was failing at the time of withdrawal. Each “WP” and “WF” mark will appear on the official transcript. “WP/WF” marks are not included in the calculation of semester, term or cumulative grade point averages. However, “WF” marks are included as course failures when determinations of academic probation or academic failure are made. There are no refunds for WP/WF marks. Completion of a signed, approved Course Withdrawal Request is required.

Incomplete

Incomplete grades (“I”) are given under exceptional circumstance to a student who has made satisfactory progress in a course but, because of illness or other extenuating circumstances beyond their control, is unable to complete all the course requirements by the end of the semester. Students must complete coursework and faculty must assign a permanent letter grade within one year from the time the grade of I was issued. Incomplete grades not resolved within the designated timeframe will be converted to the grade of F. Students are ultimately responsible for completing coursework within the one-year period.

All forms are located on the Graduate School website at <http://graduate.umaryland.edu/Forms/>.

Waiving or Substituting Courses

In exceptional circumstances, students may petition for a waiver or substitution of a required course if they can demonstrate and document that they have previously acquired the required course competencies. If a waiver or substitution is granted, 30 credits are still required for graduation. The documentation necessary to grant a waiver or substitution will require the name/title of the previous course(s), instructor(s), textbook(s), summary of course syllabus, and grade(s) received. In addition, waiving or substitution a required course may include an examination.

A request for a required course waiver/modification must be submitted early – at the start of the academic program, whether the student is enrolled on a full-time or part-time status.

If a student would like to request a waiver or substitution of a required course, please contact the CMBS MS Senior Academic Services Specialist to initiate the process.

Academic Policies and Procedures

Cancellation of Registration – Withdrawal

Registered students compelled to leave the university before the start of a given term must file a letter of cancellation of registration with the Graduate School. Failure to file this letter and to obtain approval by the Graduate School will result in loss of refund. Once the semester begins students are subject to the other schedule adjustment guidelines, policies and procedures (Add/Drop, Withdrawing, etc.) cited above.

Leave of Absence

Students who wish to continue in a degree program, but cannot study in a specific semester or year, must take a Leave of Absence (LOA) with the approval of their Program Director and the Graduate School. Students must complete a **Leave of Absence Request form** and present it to their Program Director and to the Graduate School for approval.

The Graduate School notifies students of leave approvals and of the terms of re-enrollment. While there is no minimum number of times a student may request a leave of absence, leaves do not extend the time required to complete degree requirements. Completion of a signed, approved **Leave of Absence (LOA) Request form** is required.

All forms are located on the Graduate School website at <http://graduate.umaryland.edu/Forms/>.

Academic Misconduct

Fabrication, falsification, plagiarism, cheating, improprieties of authorship, facilitating academic dishonesty or any other type of academic misconduct will not be tolerated. Students pursuing a

CMBS MS are expected to maintain academic integrity and honesty at all times. Please refer to the Graduate School policies regarding academic misconduct at <http://www.graduate.umaryland.edu/policies/>.

Academic Dismissal

Students must have a cumulative average GPA of 3.0 to graduate. Any student finishing an academic semester with a GPA of less than 3.0 will be placed on academic probation and be required to submit a remediation plan to the Program Director and the Graduate School. The Graduate School may dismiss students whose average GPA is low enough that achieving a 3.0 is highly unlikely. CMBS MS students will not be dismissed for grades of B- or below in the Core Course, unless the semester GPA is significantly lower than 3.0 and it is unlikely the student will recover.

Course Grade Appeal Procedure

The Graduate School provides students with a mechanism for reviewing course grades alleged to be arbitrary or capricious. If a student receives a grade that they feel does not reflect performance in the course, please review the Graduate School policies listed at <http://www.graduate.umaryland.edu/policies/>.

Ombuds Committee

The Ombuds Committee was created by the Graduate School for resolving disagreements between a graduate student and the graduate program with they are enrolled. The CMBS MS program encourages students to use the mediation services of the Ombuds Committee if they become involved in a dispute that cannot be successfully resolved at the program level. A step-by-step list of procedures for utilizing the Ombuds Committee can be found at <http://www.graduate.umaryland.edu/policies/>.

Appeal of Academic Dismissal

The CMBS MS program abides by Graduate School policies for appeal of academic dismissal, which can be found at <http://www.graduate.umaryland.edu/policies/>.

Laboratory Rotations

Research rotations provide students with opportunities to 1) learn how to function and flourish in a research setting; 2) learn a specific skill (e.g., laboratory technique, statistical method) necessary for thesis or continued lab work.

Expectations and Opportunities

Rotations are a time of learning and growth, and the more time and energy students put into them, the more they will learn in terms of new knowledge and expanding research and career opportunities. During the rotation(s), students will work on projects that are mutually beneficial to the mentor and student.

To maximize the benefits of a rotation(s) it is suggested that students:

- 1) Agree upon a project and expectations with their mentor at the outset.
- 2) Pay careful attention to what is going on in the research setting regarding their specific project and in general.
- 3) Work hard.
- 4) Work independently and collaboratively.
- 5) Ask questions when help is needed.
- 6) Review readings that have been recommended and/or assigned by the mentor, and those obtained through literature searches.

Maintain **regular** and **consistent** communication with the mentor to discuss any challenges and outcomes that may occur while engaged in research.

Selection Process

The rotation selection process is discussed in collaboration between the student and the Program Director. Students that have already identified their area of interest are encouraged to reach out directly with one or more potential mentors. Students who do not yet have a preferred research area should continue working with the Program Director prior to reaching out potential mentors.

Forms & Processes

Fillable electronic lab rotation forms are located at <http://lifesciences.umaryland.edu/CMBS/Student-Resources/> and samples of the forms are shown in [Appendix C: Lab Rotation Forms](#). Every Lab Rotation requires three forms to be submitted to the Senior Academic Services Specialist at various points throughout each rotation:

- 1) ***CMBS Lab Rotation Proposal Form***

This form is to be completed by the student with input and collaboration from the mentor. The form is reviewed and signed by the mentor and Program Director, before submitting the signed form to the Senior Academic Services Specialist and **prior** to starting the rotation.

- 2) ***CMBS Lab Rotation Completion Form***

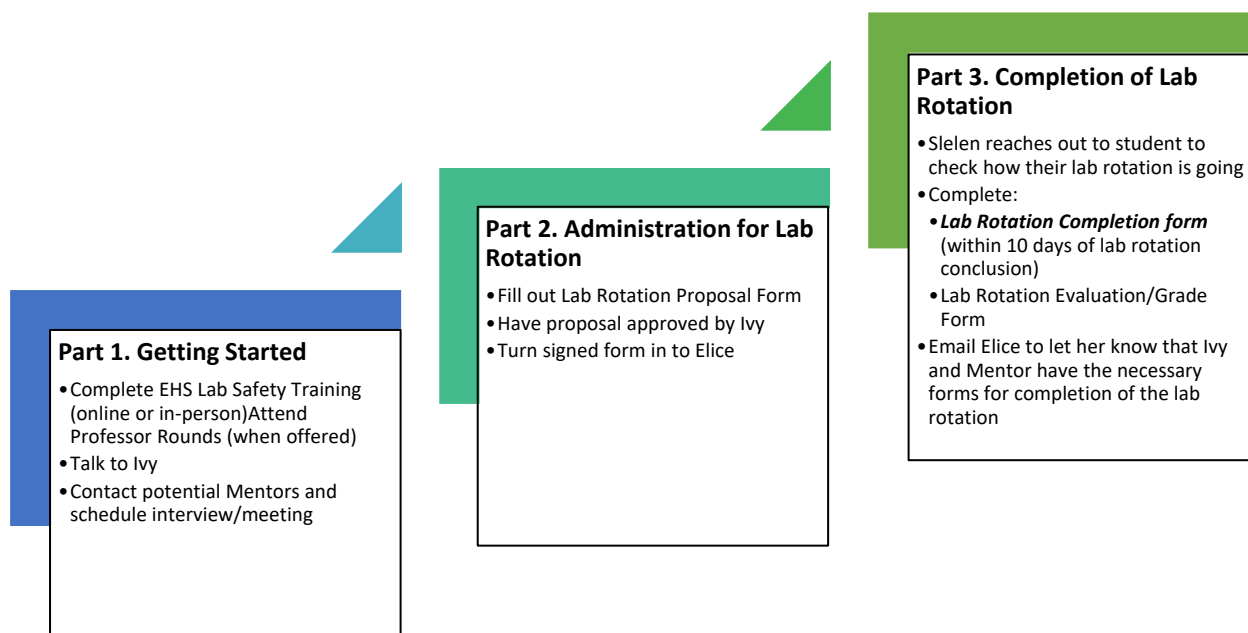
Upon completion of the lab rotation, the student completes this form which provides a synopsis of the lab experience. The form is reviewed and signed by the Program Director, before submitting the signed form to the Senior Academic Services Specialist. Form must be submitted within 10 days of completing the lab rotation.

- 3) ***CMBS Lab Rotation Evaluation & Grade Form***

The mentor is required to complete an evaluation of the work performed by the

student, for the student to receive credit. Once the form is completed, the mentor will submit the form to the Senior Academic Services Specialist.

A visual of the overall lab rotation process is shown below. Samples of the lab rotation forms to be completed are in Appendix D.



Responsibilities of the Lab Rotation

Environmental Health and Safety – Lab Safety Training

All students (full-time and part-time) working in a laboratory are required to attend initial laboratory safety training and maintain annual training. For more information on the training and a schedule of sessions, please visit the EHS site <http://www.umaryland.edu/ehs/training/>.

Lab Notebooks

All students should adhere to the ‘Good Laboratory Practice’ or GLP guidelines when keeping a lab notebook. These guidelines are designed to ensure that all lab work is conducted under carefully controlled conditions, which means that the standardized and validated procedures will provide reliable, reproducible, and traceable data. For information on how to keep a GPLS lab notebook, please refer to the following for additional information on how to maintain an appropriate lab notebook [https://www.training.nih.gov/assets/Lab_Notebook_508_\(new\).pdf](https://www.training.nih.gov/assets/Lab_Notebook_508_(new).pdf).

Student

The student is expected to take an active part in the lab rotation and research opportunities. This is important, as it also prepares students for acquiring skills needed to obtain a job or

further academic advancement upon graduation. Finally, students should have a high level of professionalism when communicating with the mentors and colleagues during the lab rotation.

During the lab rotation, the student needs to be in regular contact with the mentor and in some cases, the Program Director. It is also necessary to inform the Senior Academic Services Specialist regarding any plans or concerns a student has for securing a lab rotation.

Mentor

The mentor supervises the student's progress in completing all goals, objectives, and associated activities throughout the lab rotation. In addition, the mentor should be available to meet with the student on a regular basis and, when necessary, advise the Program Director of any problems that arise. The mentor is required to submit an evaluation and grade of the student's performance upon completion of the lab rotation.

Thesis

A master's thesis is a piece of original scholarship written under the direction of a faculty advisor. Theses are like doctoral dissertations but are generally shorter and more narrowly focused. Though theses do not have to be published, students should aim for their work to be publishable as a single research article.

Requirements

The CMBS MS thesis is a graduation requirement for students that have elected the Thesis option for their program of study. Students must make this decision **no later** than the end of the Spring Semester of their first year as a full-time student. It is preferable that students make the decision around the middle of the spring semester of their first year to ensure that they have enough time to complete the milestones outlined in this section.

Students that have elected the thesis option are required to enroll in GPLS 799.01 Master's Thesis Research for 6 credits. Students will work with their thesis advisor to choose a course of study that forms a coherent structure and provides advanced expertise in the chosen area of emphasis.

Graduate Research Conference (GRC)

The GRC creates a unique and dynamic setting that facilitates the efficient exchange of information and ideas across a wide variety of scientific disciplines via oral or poster presentations. The annual event is held in the spring semester, around mid-term, and additional information is posted to the Graduate School website at <https://www.graduate.umaryland.edu/gsa/Graduate-Research-Conference/>.

Mentor

Students choosing to pursue the thesis option will select a research mentor. The mentor will guide all aspects of the research program, assist in course selection, and advise the student in

their thesis preparation and presentation. The Program Director will advise the student as needed, in addition to approving all necessary paperwork that must be submitted by the student.

Mentors may be selected throughout the University and must be a member of the Graduate Faculty. The Program Director is recognized by the University as the student's academic advisor, so in rare cases off-campus mentors may be chosen. In this case, the student should arrange to have the mentor's CV forwarded to the Program Director for approval.

The GPILS website is a great resource for a researching potential mentors <http://lifesciences.umaryland.edu/about/Faculty--Staff/Graduate-Program-Faculty/>. It is **strongly** recommended that students begin the process of identifying a thesis mentor in their first semester and arrange a laboratory rotation for the start of their second semester.

Thesis Project

The research undertaken as part of the thesis is guided by the thesis mentor and the student. In most cases, the mentor will provide substantial input into the project goals and design. It is important that the student and mentor design a project that is consistent with the timeframe of the CMBS MS degree, i.e., 2-3 semesters or 6 months of dedicated research time.

Thesis Committee

The thesis committee should consist of a minimum of 3 members, though 4 members are recommended, including the thesis mentor. At least one member of the committee must be a regular member of the Graduate Faculty, all faculty are listed on the Graduate School website at <https://www.graduate.umaryland.edu/About/Faculty-and-Staff/Graduate-Faculty/>.

The committee should be selected as early as possible and certainly as soon as a potential thesis project has been selected. Committee members should be selected by the student and the thesis mentor, who are able to assist the student in aspects of their thesis research. The names of the thesis committee should be forwarded to the Program Director as soon as available by submitting the **MS Thesis Committee Approval form**. It is recommended that the student's mentor may be the Thesis Committee Chair, though this is not required. Please confirm with the Program Director that this will be approved. Once the committee has been approved by the program director, the committee approval is to formally be filed with the Graduate School using the *Nomination or Members for the Final Master's Examination Committee* form, located at <https://www.graduate.umaryland.edu/Forms/>.

It is expected that the student will meet with the committee at least once to evaluate progress and provide advice and input. Though more meetings may be scheduled as needed.

Thesis Proposal

The CMBS MS program requires that students write and present to their committee, a short proposal of the thesis research. Thesis proposals should be similar to a grant proposal, and should include the following clearly stated items:

- 1) Proposed thesis title
- 2) Scope of research
- 3) Hypothesis
- 4) Research aim(s)
- 5) Methods
- 6) Preliminary results as appropriate

The thesis proposal should be filed with the Senior Academic Services Specialist, Program Director and thesis committee.

Thesis Requirements

The thesis does not have a specified length or page requirement. Theses are to be in the format of a research article, and are to include:

- Title
- Table of contents
- Introduction
- Materials and methods
- Results
- Discussion
- References/bibliography
- Acknowledgements (optional)

The final written document should be complete and follow the guidelines set forth by the Graduate School using the Thesis and Dissertation Style Guide <https://www.graduate.umaryland.edu/Current-Students/Information-for-Graduating-Students/>. CMBS MS theses are filed electronically, although it is appropriate to provide the mentor and members of the thesis committee a bound hard copy.

A finished draft of the thesis should be provided to the committee at least 4 weeks before the scheduled seminar. The committee will determine if the thesis is defensible and provide feedback and suggestions for the final written document. If the thesis is deemed indefensible, the student must address the issues raised by the committee before moving forward on the thesis.

If the thesis draft is deemed defensible, then the ***Certificate of Completion*** form must then be sent to the Graduate School along with the online ***Defense Announcement***. All forms are located on the Graduate School website at <https://www.graduate.umaryland.edu/Forms/> as previously stated.

Final Exam

The final exam consists of a public seminar and a closed oral exam.

Public Seminar

The public seminar should be scheduled upon confirmation by the committee that the thesis is defensible and publicized through the Program Director. CMBS MS thesis seminars are about 40 minutes in length, followed by questions from the audience.

Oral Exam

The oral exam is closed to the public and includes only the thesis committee. One member of the committee will be assigned as the Dean's representative and be responsible for communicating the results of the final exam to the graduate school, as well as serving as the chair of the committee. The oral exam should not exceed 2 hours in length, and specific guidelines for all aspects of MS theses exams are provided at <https://www.graduate.umaryland.edu/Forms/> under the heading Graduation and Degree Certification Forms.

Thesis Defense and Examination Process

The Thesis Defense and Examination is the culmination of the student's work in the MS program. The Defense and Examination should follow the standard order/procedure:

- 1) The Mentor should introduce their student to the Thesis Committee and the audience.
- 2) The Thesis Committee Chair should then take over managing the meeting by explaining the process of the defense and examination:
 - a. Public portion – The student will present their thesis and upon completion of the presentation the floor will be opened to questions from the audience
 - b. Private portion – The audience will be excused, and the private portion of the examination will begin
- 3) Student gives their presentation (no more than 30 minutes in length).
- 4) Thesis Committee chair closes the public session and excuses the audience so that the closed portion may begin.
- 5) After the examination, the student will step out of the room. The Thesis Committee confers, votes and determines the outcome.
- 6) Student is then asked to return to the room and is given the outcome.
- 7) ***Report of the Examining Committee on Master's Thesis form*** is completed and signed by all parties.
- 8) Student turns the completed form in to the Senior Academic Services Specialist (Elice García-Baca). The form is then submitted to the Graduate School.

Final Approved Thesis

Upon successful defense, a copy of the final thesis is to be submitted to the Program Director and the Senior Academic Services Specialist at the same time as the submission to the UMB Graduate School ProQuest ETD Administrator <https://secure.etdadmin.com/cgi-bin/school?siteId=153>.

Graduation

At the beginning of the semester during which a student plans to graduate, the student should consult the Graduate School Academic Calendar and deadlines

<http://www.graduate.umaryland.edu/Current-Students/Academic-Calendar-and-Deadlines/> as well as <http://www.graduate.umaryland.edu/Forms/> for the current forms and deadlines.

The CMBS program also has a Pre-Graduation Checklist that needs to be completed before submitting final paperwork to the Graduate School for completion of degree. A sample of the checklist is shown in Appendix D.

Please Note: students must be registered for at least one credit in the semester during which they plan to graduate, including summer and winter semesters.

If a student misses the application for graduation, they will have to wait until the next graduation cycle. No exceptions.

Finances

Tuition and fee information can be located at

<http://www.umaryland.edu/financialservices/student-accounting/tuition-and-fees-by-school/>.

The CMBS MS program does not offer stipends, scholarships, or assistantships. Faculty mentors ARE NOT required to provide payment for MS students in their laboratories. You must make this clear when approaching faculty members in pursuit of a lab rotation or thesis research with them. You may be eligible for financial assistance and should consult the UMB Office of Financial Aid at <http://www.umaryland.edu/fin/> for additional information.

For student employment opportunities, please refer to

<https://www.umaryland.edu/fin/student-employment/> for more information. In specific circumstances, students may be employed on campus as, for example, laboratory technicians.

International Students

The Office of International Services will assist international students with document processing and facilitate visa services and support. Additional information may be obtained at

<https://www.umaryland.edu/ois/>. International student support may also be obtained from <https://www.umaryland.edu/services/international-services/>.

Applying to GPILS PhD Programs

The CMBS program does not transfer students into GPILS PhD programs. Rather, students must submit a complete application with all required documentation, including application fee by the

scheduled deadlines. To be eligible to apply to any of the GPILS PhD programs, MS students must achieve a grade of B or better in GPLS 601 Mechanisms in Biomedical Sciences (Core Course).

Appendix A: Timeline for CMBS MS Degree Completion

This is the timeline and detailed listing of individual components of the MS program.

Year 1: Summer, Fall, Spring Semesters		
MS Timeline	Step towards degree	Actions to be taken
Summer Semester: Year 1 Optional	Coursework	<ul style="list-style-type: none"> – Meet with Program Director prior to starting Summer Bridge. – Academic Services Specialist will register you for summer lab rotation.
	Lab Rotation	<ul style="list-style-type: none"> – Meet with potential mentors for lab rotation. – Complete and submit lab rotation proposal form to Program Director & Academic Services Specialist. – Participate and engage in lab rotation for 8 weeks. – Submit lab rotation completion form to Academic Services Specialist. – Lab Rotation Mentor submits lab rotation evaluation and letter grade form to Academic Services Specialist.
Fall Semester: Year 1	Coursework	<ul style="list-style-type: none"> – Meet with Program Director & Academic Services Specialist prior to semester registration deadline. – Academic Services Specialist will register you for fall classes. – If MS students are registered for full 8-credit Core Course, they are NOT allowed to have a lab rotation. They are however, required to attend Professor Rounds lunches.
	Lab Rotations	<ul style="list-style-type: none"> – Attend Professor Rounds for Lunch – Meet with potential lab rotation mentors. – Complete and submit lab rotation proposal form to Program Director & Academic Services Specialist. – Participate and engage in lab rotation for 8-10 weeks. – Submit lab rotation completion form to Academic Services Specialist. – Lab Rotation Mentor submits lab rotation evaluation and letter grade form to Academic Services Specialist.
Spring Semester: Year 1	Coursework	<ul style="list-style-type: none"> – Meet with Program Director & Academic Services Specialist prior to semester registration deadline. – Academic Services Specialist to unlock registration after course approval from Program Director. – Log in to SURFS and enroll in courses.

	Lab Rotations	<ul style="list-style-type: none"> – Meet with potential lab rotation mentors. – Complete and submit lab rotation proposal form to Academic Services Specialist. – Participate and engage in lab rotation for 8-10 weeks. – Submit lab rotation completion form to Academic Services Specialist. – Lab Rotation Mentor submits lab rotation evaluation and letter grade form to Academic Services Specialist.
	Professional/Career Development	<ul style="list-style-type: none"> – Attend professional/career development sessions offered.
Spring Semester: End of Year 1	Mentor/Lab Selection	<ul style="list-style-type: none"> – Decision is to be made whether student is doing a Thesis or continuing as a Non-Thesis student. – Select a mentor/lab. – Confirm that mentor has time to support MS Thesis research. – Inform Program Director & Academic Specialist of your mentor choice.
Start work on MS thesis		

Year 2: Summer, Fall, Spring Semesters		
MS Timeline	Step towards degree	Actions to be taken
Summer Semester: Year 2 Optional	Lab Rotations	<ul style="list-style-type: none"> – Meet with potential lab rotation mentors. – Complete and submit lab rotation proposal form to Academic Services Specialist. – Participate and engage in lab rotation for 8-10 weeks. – Submit lab rotation completion form to Academic Services Specialist. – Lab Rotation Mentor submits lab rotation evaluation and letter grade form to Academic Services Specialist.
	Master's Thesis Research	<ul style="list-style-type: none"> – Discuss potential thesis committee members with mentor. – Ask desired committee members to serve, confirm availability and inform them of required committee meetings: <ul style="list-style-type: none"> ○ Thesis proposal and other meetings as needed ○ Thesis defense – Complete Master's Thesis Committee Member Approval Form obtain Mentor & Program Director signature. Submit completed form to Academic Services Specialist. – Academic Services Specialist sends Mentor the MS Thesis Mentor Agreement. – Engage in thesis research for the semester, and consistently check-in with Mentor on progress.

		– Thesis Mentor submits letter grade to Academic Services Specialist.
--	--	-----------------------------------------------------------------------

Year 2: Fall & Spring Semesters		
MS Timeline	Steps toward degree	Actions to be taken
Fall Semester: Year 2	Coursework	<ul style="list-style-type: none"> – Meet with Program Director & Academic Services Specialist prior to semester registration deadline. – Academic Services Specialist to unlock registration after course approval from Program Director. – Log in to SURFS and enroll in courses.
	Lab Rotations	<ul style="list-style-type: none"> – Meet with potential lab rotation mentors. – Complete and submit lab rotation proposal form to Academic Services Specialist. – Participate and engage in lab rotation for 8-10 weeks. – Submit lab rotation completion form to Academic Services Specialist. – Lab Rotation Mentor submits lab rotation evaluation and letter grade form to Academic Services Specialist.
	Master’s Thesis Research	<ul style="list-style-type: none"> – Discuss potential thesis committee members with mentor. – Ask desired committee members to serve, confirm availability and inform them of required committee meetings: <ul style="list-style-type: none"> ○ Thesis proposal and other meetings as needed ○ Thesis defense – Complete Master’s Thesis Committee Member Approval Form, obtain Mentor & Program Director signature. Submit completed form to Academic Services Specialist. – Academic Services Specialist sends Mentor the MS Thesis Mentor Agreement. – Engage in thesis research for the semester, and consistently check-in with Mentor on progress. – Thesis Mentor submits letter grade to Academic Services Specialist.
	Master’s Thesis Proposal	<ul style="list-style-type: none"> – Schedule Thesis Proposal meeting with your thesis committee. Once a date is determined, let Academic Services Specialist know the date, time and location. – Complete the Master’s Thesis Proposal Approval Form prior to thesis proposal form. – Propose thesis to Thesis Committee, and obtain: <ul style="list-style-type: none"> ○ Approval to move forward in research ○ Signatures on the Master’s Thesis Proposal Approval Form – Submit completed Master’s Thesis Proposal Approval Form to Program Director & Academic

		Services Specialist.
Spring Semester: Year 2	Coursework	<ul style="list-style-type: none"> – Meet with Program Director & Academic Services Specialist prior to semester registration deadline. – Academic Services Specialist to unlock registration after course approval from Program Director. – Log in to SURFS and enroll in courses.
	Graduation Preparation	<ul style="list-style-type: none"> – Apply to graduate online in SURFS. – Submit Fulfillment of Course Requirements for Master’s Degree form. – Submit master’s certification form: <ul style="list-style-type: none"> ○ Non-thesis students submit Certification of Master’s Degree Without Thesis form. ○ Thesis Students submit Certification of Completion of the Master’s Thesis form once thesis defense date is scheduled.
	Lab Rotations	<ul style="list-style-type: none"> – Meet with potential lab rotation mentors. – Complete and submit lab rotation proposal form to Academic Services Specialist. – Participate and engage in lab rotation for 8-10 weeks. – Submit lab rotation completion form to Academic Services Specialist. – Lab Rotation Mentor submits lab rotation evaluation and letter grade form to Academic Services Specialist.
	Master’s Thesis Research	<ul style="list-style-type: none"> – Continued engagement in thesis research for the semester, and consistent check-ins with Mentor on progress. – Start writing thesis. – Thesis Mentor submits letter grade to Academic Services Specialist.
	Graduate Research Conference	<ul style="list-style-type: none"> – For students in the thesis option, present research at Graduate Research Conference organized by the Graduate School. – Students in the non-thesis option are encouraged to attend the Graduate Research Conference.

Year 2: Summer, Fall, Spring Semesters		
MS Timeline	Steps toward degree	Actions to be taken
Spring Semester: Year 2 cont.	Master's Thesis Defense No later than April 15	<ul style="list-style-type: none"> – Schedule date, time, and location for defense. Be sure to inform Academic Services Specialist 2 weeks prior to defense. – Complete and submit the Certification of Completion of the Master's Thesis form signed by the Mentor, Reader, & Program Director. The form to be submitted to the Graduate School at gradforms@umaryland.edu with the Academic Services Specialist cc'd in the email. – Submit online Defense Announcement here. – Complete the Approval Sheet, print it and take a copy with you to your defense.
	After Successful Thesis Defense	<ul style="list-style-type: none"> – Submit the completed Report of Examining Committee within two days of successful defense. – OPTIONAL: Register for ORCID Identifier here. – Review the Thesis and Dissertation Style Guide for the Graduate School. – Submit the final approved thesis to ProQuest here once it meets campus Style Guide requirements. – Submit a PDF copy of the final approved thesis to Academic Services Specialist. – Complete and submit the Thesis and Dissertation Electronic Publication Form to the Graduate School at gradforms@umaryland.edu.

Appendix B: Sample Program of Study

Each student admitted to the program will receive a Program of Study (PoS). This is a guide, and assists in planning course enrollment. For example, below is what a full-time PoS looks like for a student that is planning on completing the degree:

- In 2 Years
- While taking 9 credits per semester
- With the thesis option

Course Number	Course Name	Credits	Designation
Summer, Prior to Program Start			
	Summer Bridge		Suggested
GPLS 609.05	Lab Rotations CMBS MS	1	Required
Fall, Semester 1/Year 1			
GPLS 601.01	Mechanisms in Biomedical Science	8	Required
GPLS xxx.xx	Required Course (GPLS 690, GPLS 691, or GPLS 692)	1	Required
Spring, Semester 2/Year 1			
GPLS 609.05	Lab Rotations CMBS MS	2	Required
GPLS xxx.xx	Elective Course	3	Elective
GPLS xxx.xx	Elective Course	3	Elective
CIPP 907.01	Research Ethics	1	Required
Thesis Option: Confirm research mentor as early as possible.			
Summer			
Thesis Option: Work on thesis proposal.			
Fall, Semester 3/Year 2			
GPLS 630.01	Fundamentals in Biostatistics	3	Required
GPLS xxx.xx	Elective Course	3	Elective
GPLS xxx.xx	Elective Course	3	Elective
Thesis Option: Research and thesis committee meeting.			
Spring, Semester 4/Year 2			
GPLS xxx.xx	Elective Course	3	Elective
GPLS 799.01	Master's Thesis Research	6	Required
Thesis Option: Research and thesis preparation. Thesis defense prior to graduation.			

For part-time students, it is suggested that the required courses are taken upfront to ensure these have been met as early on as possible.

Appendix C: Frequently Used Contacts and Phone Numbers

CMBS Program

Bressler Research Building, Room 1-005D
655 W. Baltimore Street
Baltimore, MD 21201
Phone: 410-706-6042
Hours: Monday-Friday, 9:00 AM to 4:00 PM
Website:
<http://lifesciences.umaryland.edu/CMBS/>
Student Resources Webpage:
<https://lifesciences.umaryland.edu/CMBS/Student-Resources/>

UMB Graduate School

620 W. Lexington Street, 5th Floor
Phone: 410-706-7132
Fax: 410-706-3473
gradinfo@umaryland.edu
<http://graduate.umaryland.edu/>
Student Resources Webpage:
<https://www.graduate.umaryland.edu/student-resources/>

SURFS

Student User-Friendly System
Website: <https://www.umaryland.edu/surfs/>

Medscope - SOM student profile and portal

<http://medscope.umaryland.edu/>

24-hour National Graduate Student Crisis Line:

1-800-GRAD-HLP

Office of International Services:

<https://www.umaryland.edu/ois/>
Gina Dreyer
gdreyer@umaryland.edu
SMC Campus Center, Suite 302
621 W. Lombard Street
Phone: 410-706-3171

Counseling Center

Emilia K. Petrillo, LCSW-C
Executive Director
epetr001@umaryland.edu
601 W. Lombard St., Suite 440
Phone: 410-328-8404
Hours: Monday-Friday, 8:30 AM to 5:00 PM
Website:
<http://www.umaryland.edu/counseling/>

Writing Center

Isabell C. May, PhD
Director
imay@umaryland.edu
621 W. Lombard St., Suite 307
Phone: 410-706-7725
Hours: Monday-Friday, 10:00 AM to 4:00 PM
Saturday, 10:00 AM to 2:00 PM
Website:
<http://www.umaryland.edu/counseling/>

GPILS Student Advisory Committee (SAC)

<https://lifesciences.umaryland.edu/about/Student-Life/Student-Advisory-Committee/>

President: Pranjali Kanvinde (MMED)

Email:
Pranjali.Kanvinde@som.umaryland.edu

Vice President: Julia Rutherford (MBIC)

Email:
Julia.Rutherford@som.umaryland.edu

(General) Grad Resources

<https://gradresources.org/>

Graduate Student Association (GSA):

You are encouraged to participate in the GSA, which offers special services for graduate students, including grants for lab supplies, travel fellowships, and use of laptop computers. If you are interested in becoming an active member or representative in the GSA, please email them at gsa@umaryland.edu for further information.


GSA website: <http://graduate.umaryland.edu/gsa/>

GSA President email: umb.gsa.president@gmail.com

GSA Public Affairs email: umb.gsa.pro@gmail.com

Appendix D: Forms (samples)

CMBS Lab Rotation Proposal Form



UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

Cellular & Molecular Biomedical Science
MS Program

GRADUATE PROGRAM IN LIFE SCIENCES

CMBS Lab Rotation Proposal Form

Prior to starting your lab rotation, please complete this form. It must be signed by the proposed mentor, the Program Director and returned to the Academic Program Specialist before the rotation begins. Your rotation will NOT be approved without this form!

Student name: _____

Mentor name and title: _____

Proposed rotation dates: _____ to _____

Expected schedule for laboratory work: _____

The goals of this rotation are: _____

I expect to gain experience with the following techniques: _____

PLEASE NOTE: MS students do not receive a stipend; they do not require funding from their mentors. Mentors may hire MS students as laboratory technicians full or part-time at their own discretion. This is unrelated to the MS program.

Signatures:

Student: _____ Date: _____

Mentor: _____ Date: _____

Program Director: _____ Date: _____

DENTISTRY • LAW • MEDICINE • NURSING • PHARMACY • SOCIAL WORK • GRADUATE STUDIES

CMBS Lab Rotation Completion Form



UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

Cellular & Molecular Biomedical Science
MS Program

GRADUATE PROGRAM IN LIFE SCIENCES

CMBS Lab Rotation Completion Form

This form is to be filled out and turned in within 10 days of lab rotation completion. It must be signed by the Program Director, and then turned in to the Academic Program Specialist.

Student name:

Mentor name and title:

Rotation dates: _____ to _____

The goals achieved during this rotation were:

What did you learn from this experience?

Did you receive adequate training and guidance? Please explain:

Would you recommend this lab to other students? Please explain:

Signatures:

Student: _____ Date: _____

Program Director: _____ Date: _____

DENTISTRY • LAW • MEDICINE • NURSING • PHARMACY • SOCIAL WORK • GRADUATE STUDIES

CMBS Lab Rotation Evaluation & Grade Form



UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

Cellular & Molecular Biomedical Science
MS Program

GRADUATE PROGRAM IN LIFE SCIENCES

CMBS Lab Rotation Evaluation/Grade Form

CMBS STUDENTS: Complete the top portion of this form and provide it to your mentor immediately upon completion of your lab rotation.

Student name:

Mentor name and title:

Rotation dates: _____ to _____

Credits (1-3): _____

MENTORS: Please turn in the grade for your lab rotation students within 10 days of rotation completion to the CMBS Academic Program Specialist.

Email: egarcia-baca@som.umaryland.edu

Office: BRB 1-005D

Please rate the student's performance on a scale of 1=Excellent to 5=Poor

	Research ability and potential
	Written and/or verbal communication skills
	Perseverance and independence
	Laboratory ability
	Originality
	Accuracy

Please provide a summary of the student's performance.

Would you accept this student for a Thesis Project or as an employee in your lab? Yes No

Grade (Pass/Fail): _____

Signature: _____

Mentor: _____ Date: _____

DENTISTRY • LAW • MEDICINE • NURSING • PHARMACY • SOCIAL WORK • GRADUATE STUDIES

CMBS Pre-Graduation Checklist

CMBS & Toxi MS Program Pre-Graduation Checklist

Form Instructions: Complete this form for a final audit of the fulfillment of the Molecular Medicine Program, GPILS, and Graduate School requirements. Submit this form to the Academic Services Specialist as early in the semester in which you plan to graduate, but **no later than 1 month before to graduating.**

Student Name: _____

Mentor: _____

Graduate School:	
Application to graduate submitted via SURFS?	
Thesis or Non-Thesis?	
Total number of academic credits, including final semester <i>Minimum 30 credits total.</i>	
Total number of lab rotation credits <i>Check Program Handbook to confirm minimum.</i>	
CIPP 907 Research Ethics completion semester <i>Confirm Academic Specialist has a copy of completion certificate.</i>	
To date, do you have any 'No Marks' on your transcript? <i>Students may not graduate with 'NM' on their transcript.</i>	
Alumni Form completed? <i>Please submit with this completed form.</i>	
CV Submitted? <i>Email the Academic Specialist an electronic copy.</i>	
Have you updated your MedScope profile? <i>medscope.umaryland.edu</i>	
Graduate School Form #1:	
Fulfillment of Course Requirements for MS Degree	
Graduate School Form #2 or #3:	
Certification of MS with/without Thesis <i>Must include a copy of your unofficial transcripts from SURFS.</i>	
Alumni Form completed? <i>Please submit with this completed form.</i>	
Regalia ordered if walking in graduation ceremony?	
Thesis Option - Additional Requirements	
Thesis Bootcamp Dates	
Graduate Research Conference Presentation Date	
Thesis Defense Date	
Graduate School Form #4:	
Report of Examining Committee <i>Grad School Dean's Rep is in charge of this form.</i>	
Graduate School Form #5:	
Approval Sheet <i>Grad School Dean's Rep is in charge of this form.</i>	
Final Thesis submitted to ProQuest ETD	
Final Thesis submitted to Program <i>Email the Academic Specialist an electronic copy. Should be the same as what was submitted to ProQuest ETD.</i>	

Student Signature: _____ Date: _____

Academic Services Specialist Signature: _____ Date: _____