



JOHNS HOPKINS
BLOOMBERG
SCHOOL of PUBLIC HEALTH

Department of Molecular Microbiology and Immunology



MASTER'S HANDBOOK
(MHS/Sc.M.)

Student Guidebook

September 2009

DEPARTMENT OF MOLECULAR MICROBIOLOGY AND IMMUNOLOGY

LOCATIONS AND PHONE NUMBERS OF FULL-TIME TEACHING FACULTY

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This Guidebook, which supplements the School's *2009-10 Student Handbook*, is intended to summarize most of the School and Departmental requirements for your degree program. In addition, other practical information is included for your convenience.

The academic advisor assigned to you will assist you in the decision-making process during the initial phase of your studies.

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INTRODUCTION

The goal of the training programs in this Department is to provide a solid foundation in the biomedical sciences for a small group of carefully selected graduate and postgraduate students interested in addressing outstanding issues underlying infectious and immunologic diseases of public health importance. It aims to equip students with a diversity of disciplinary concepts and methodological tools to solve specific disease-related problems. This holistic approach requires a common core of knowledge of the population, clinical, cellular and molecular aspects of disease.

STRUCTURE OF THE DEPARTMENT

The administration of the Department is the task of the Chair, Dr. Diane E. Griffin, who has the overall responsibility for the educational and research programs in the Department. Major policies of the Department are adopted at monthly meetings of the full-time faculty. A representative of the Departmental student body attends the faculty meetings. A number of committees comprising intramural and extramural faculty carry out much of the business of the Department. The chair appoints the committees annually and membership rotates among the faculty. Each committee is responsible for some aspect of the Department's activities. In many instances, a student representative, voted for or volunteering at a meeting of the Departmental Student Association, participates on these committees.

1. Graduate Program Committee The overall responsibility for setting policy with respect to Departmental graduate students is vested in the Graduate Program Committee (GPC). The committee, with Dr. Gary Ketner currently serving as Chair, monitors the program of each graduate student, reviews the progress of each student on a semi-annual basis, and assures the maintenance of appropriate academic standards. The Graduate Program Committee meets on a regular basis and reports monthly at the Departmental faculty meeting, so that the entire faculty is kept informed of all policies and any specific problems that have occurred. The Graduate Program Committee

- a. is responsible for the review and evaluation of the graduate program;
- b. is responsible for monitoring and evaluating satisfactory academic progress of each student;
- c. develops general policies for the graduate program; for example, recommends requirements for intramural, extramural and part-time students;
- d. develops requirements for student advisement, coursework, and the comprehensive written examination;
- e. handles requests from students for exemptions from Departmental requirements.
- f. deals with policies regarding other aspects of student life in the Department.

The Graduate Program Committee also has overall responsibility for the Departmental curriculum. In this capacity, the Graduate Program Committee

- a. reviews content and organization of curriculum within the department
- b. approves new courses and changes to existing courses

Student Communication with the Graduate Program Committee Because many of the matters that come before the Graduate Program Committee involve individual students and therefore are confidential, the GPC does not include a student member. However, the GPC welcomes comments, questions, and concerns from the departmental students. Students can communicate with the GPC in several ways. 1. Students may request that either the Student Coordinator or the departmental Graduate Officer present issues to the committee (both individuals attend each GPC meeting). 2. The President of the Graduate Student Organization, acting as

representative of the students, may request a meeting with the GPC to discuss a specific matter of concern to students. 3. Students may ask any departmental faculty member (for example their advisor, the departmental chair, or the chair of the GPC) to address the GPC on an issue or concern.

2. Committee on Admissions and Financial Support This committee is charged with the responsibility of selecting the best-qualified students for admittance to the Department. It works closely with the Graduate Program Committee to assess the financial needs of new and continuing students and to assign the available financial support based on merit and need. Dr. Sean Prigge currently chairs this committee. The Committee on Admissions and Financial Support:

- a. develops general requirements for admission to the Department and, in consultation with the Chair, decides the number of students to be admitted;
- b. evaluates student applications for admission to the Department as degree candidates or for regular and special student status;
- c. reviews requests from students for transfer to another degree program or to or from another Department;
- d. develops, with the concurrence of the Graduate Program Committee, a program of courses for regular special students who plan to reapply for acceptance into a degree program in the Department;
- e. recommends eligible new and/or continuing predoctoral students for tuition and stipend scholarships.

3. Graduate Officer A new Graduate Officer is selected from among departmental faculty by the students each year, subject to his/her agreement. The Graduate Officer serves as ombudsman to mediate any student problems that may arise.

- a. assists the Department Chair with respect to student affairs;
- b. provides information to the Graduate Program Committee for adequate evaluation of a student's progress;
- c. assists students in matters affecting their standing in the Department;
- d. keeps abreast of all regulations and requirements for Departmental students.

4. Graduate Student Organization All MMI graduate students are members of the MMI Graduate Student Organization (GSO). The GSO generally meets at the annual departmental retreat to elect officers, and can meet at other times as often as the students desire. Apart from the annual retreat meeting, GSO meetings and activities are organized by the students. Officers elected by the GSO who bear specific official responsibilities are a President, who can speak for students at GPC meetings and represents students at departmental faculty meetings, a representative to the School's Student Assembly, and Student Admissions Coordinators. Additional officers (Social Chair, Treasurer, etc.) can be chosen by the GSO if it wishes. In the past, activities sponsored by the GSO have included charity events, fundraisers, bowling parties, student birthday celebrations, etc.

5. Facilities Committee The Facilities Committee, chaired by Dr. Alan Scott, supervises the operation and maintenance of commonly shared resources. The Facilities Committee:

- a. monitors and administers common-use equipment and facilities. This involves the establishment of a budget for the administration of common-use facilities and equipment and for the purchase of common-use equipment;
- b. monitors common-use space, which includes, for example, the cold rooms, warm rooms, and areas where common-use equipment items are located;

- c. serves in an advisory capacity to the Department Chair on space needs. The committee members may also serve as site visitors in order to analyze space requirements to ensure the efficient use of space and to make recommendations for optimum utilization of available space to the Chair.

6. Appointments and Promotions Committee This Committee, composed of full-time faculty at the level of Associate Professor and Professor ranks, advises the Department Chair on:

- a. faculty promotion and tenure decisions;
- b. new appointments to the faculty.

The Department of Molecular Microbiology and Immunology follows the University's Policy Statements on Nondiscrimination of Students, Privacy Rights of Students, Alcohol Abuse and Drug-Free Workplace, Award of Degrees, Smoking, and Sexual Harassment as specified in the catalog.

FULL-TIME MASTERS DEGREES IN MOLECULAR MICROBIOLOGY AND IMMUNOLOGY

The Department provides the Master of Health Science (MHS) program for students who wish to gain a greater depth of knowledge in molecular microbiology, immunology, and infectious diseases or in tropical public health, but who do not wish to commit to longer-term research training programs. MHS training is provided through coursework, special studies with faculty members, and participation in other Departmental activities. The Department offers the Master of Science (Sc.M.) program for students who wish to obtain, in addition to course work, rigorous training in laboratory research. The Sc.M. program includes most elements of the MHS program combined with an additional laboratory component. Successful completion of a Departmental Comprehensive Exam is required of all Sc.M. students.

Educational Objectives Key educational objectives for MHS students include: 1) develop knowledge through coursework in the areas of immunology and microbiology; 2) develop skills for the critical evaluation of scientific literature; 3) develop analytical and research skills; and 4) develop the ability to communicate scientific information orally and in writing. Additional educational objectives for Sc.M. students include development of laboratory and analytical skills required to effectively conduct laboratory research.

MHS-Sc.M. Program transfer MHS students who excel in the program and wish to add a research component to their training may apply for transfer to the MMI Sc.M. program. The integrated MMI Master's program is intended to permit seamless transfer between Sc.M. and MHS degree programs; the program requirements are identical for the first two academic terms. However, the programs diverge in the third term and a decision on degree program, therefore, must be made before that time.

MHS students who wish to transfer to the Sc.M. program should inform the Student Coordinator in writing in the **first week in January** of their first year. Applications for transfer to the Sc.M. program are evaluated by the departmental Admissions Committee on the same basis as incoming Sc.M. applications and a completed School application form must be available for review. In general, the Departmental copy of the student's original MHS application (held by the Student Coordinator) can be used. However, the student should confirm that the information contained on the application is still current, and may wish to modify the essay to reflect the new goals of his/her proposed training program. Additional references may also be added. Note that because this application is submitted directly to MMI and not the School, no application fee is required.

Applicants will be informed of the Admission Committee's decision before the beginning of third term. Because there is no guarantee that an application will be successful, students should continue to follow the MHS academic program (below) until they have received a final decision.

Students who are considering a transfer from the Sc.M. program to the MHS program should contact the Student Coordinator.

DEGREE REQUIREMENTS

There are several levels of requirements for the completion of degree programs: those set by the school, those set by the department and those set by the thesis advisor (for Sc.M. students). The degree requirements for all programs, established by the School are contained in Policy and Procedure Memoranda available at <https://my.jhsph.edu/Resources/PoliciesProcedures/ppm/Pages/default.aspx>. You will need to log in with your JHSPH e-mail user name and password to have access to these pages.

The Departmental requirements for Molecular Microbiology and Immunology (MMI) are explained in this Student Guidebook. A student's thesis advisor generally will set requirements regarding the preparation for, and completion of, the thesis or dissertation project. A brief summary with an approximate timetable of the

requirements of the school and of the department is included at the end of this section.

Residency

MHS: Minimum duration is one academic year (9 months) in full-time residence (enrollment for 12 or more credits). Most students complete their degrees in 9 months, however, the period may be extended for up to 24 months.

Sc.M: Minimum duration is two academic years in full-time residence, including the Summer Term between the first and second years. Completion is required within four calendar years of matriculation. Most students complete their degrees in two years.

ACADEMIC PROGRAM

Academic Advisor. Each new student is assigned an MMI faculty member as his/her academic advisor. The academic advisor will assist the student in the selection of appropriate courses for the first year, act as the student's source of information concerning school and departmental policies and procedures, and help the student with problems he/she may encounter. A student who wishes to change his/her assigned academic advisor should contact the Student Coordinator, who will consult the GPC.

In addition, the MHS Committee, which is composed of several MMI faculty members, with Sabra Klein currently serving as Chair, will meet with MHS students as a group soon after the orientation. During mid-term each quarter, MHS students as a group will meet for lunch with the MHS committee members to review progress and address general questions.

MHS Essay Mentors. The academic advisor usually will act as the MHS essay mentor. However, after consultation with the academic advisor, an MHS student may seek other faculty with specific interests and expertise to supervise essay preparation. The assigned MHS advisor should remain as one of the 2 secondary readers for the essay. Students who wish to use faculty other than the academic advisor as their essay mentor must submit a signed letter of agreement from the prospective mentor to the Student Coordinator.

Sc.M. Thesis Advisors. Selection of a thesis advisor takes place after completion of the required laboratory rotation (see below). After consultation with the prospective thesis advisor, the student should submit a completed Thesis Advisor Selection form (available on the departmental web site or from the Student Coordinator), signed by the prospective advisor, to the departmental Student Coordinator for approval by the Department Chair. Thesis advisor selection should be done during the summer of the first year. Requests for extra time to identify a thesis advisor must be submitted to the GPC. When appointed, thesis advisors become the student's Academic Advisor.

Approval of thesis advisor selection will take into account the interests of the student and the faculty and the availability of resources in the faculty member's laboratory (e.g. funds, space, faculty time). Every effort will be made to accommodate a student's request to work with a specific faculty member for his/her thesis research. The Department, however, cannot guarantee that a student will be able to work in the laboratory that he/she selects as a first choice. In the event that a student's first choice cannot be met, an alternative will be arranged in consultation with the student.

With the specific approval of the GPC, Sc.M. students may conduct thesis research in laboratories outside of MMI (for example, in departments other than MMI or in the School of Medicine). Requests to conduct thesis research outside the department must include justification for choice of laboratory,

acknowledgement from the proposed extra-departmental thesis advisor that MMI will provide no financial support for the student, a detailed research plan and timetable, and an agreement by a member of the MMI faculty to act as co-advisor. This policy does **not** apply to field work conducted off-campus under the direction of an MMI faculty member, which need not be approved by the GPC.

Coursework. Masters students must register for 22 credits each quarter. These credits include didactic courses, special studies, thesis research, seminars, etc. While a minimum of 64 credits are required by the School for a Master's degree, due to this Departmental requirement MMI Masters students will exceed that number at the time of graduation. Course requirements and suggestions are summarized in the accompanying table.

Master's Curriculum

Listed below are courses required of all Masters students, as well as a selection of courses that other students have found useful. Note that **required** 600 series courses must be passed with a grade of B or better, and cannot be taken Pass/Fail. In addition, a GPA of 2.75 is required for coursework. If a student's GPA falls below the requirement, the student will be placed on academic probation (see below).

TERM 1:

Required:

Introduction to Online Learning: http://distance.jhsph.edu/iol/	(non-credit)
260.611 Principles of Immunology I	(4 units)
260.623 Fundamental Virology (See Note 1)	(4 units)
260.822 Seminars in Research in Molecular Microbiology and Immunology	(1 unit)
260.821 Research Forum Molecular Microbiology and Immunology	(1 unit)
550.865 Public Health Perspectives on Doctoral Research (See Note 2)	(1 unit)
260.852 Molecular Biology Literature (See Note 3)	(2 units)
260.840 Special Studies (See Note 4)	(2-7 units)

Suggested, but not required:

340.601 Principles of Epidemiology	(5 units)
140.611 Statistical Reasoning in Public Health I	(3 units)
180.609 Principles of Environmental Health I	(4 units)
550.630 Public Health Biology	(3 units)
220.601 Introduction to International Health	(4 units)
120.600 Biochemistry – an Introductory Course I (see Note 5)	(5 units)
120.602 Introduction to Molecular Biology (see Note 5)	(4 units)
340.751 Epidemiologic Methods I	(5 units)
260.636 Evolution of Infectious Diseases	(3 units)

TERM 2:

Required:

260.612 Principles of Immunology II	(4 units)
260.652 Principles of Public Health Ecology (See Note 1)	(4 units)
260.627 Pathogenesis of Bacterial Infections (See Note 1)	(4 units)
260.822 Seminars in Research in Molecular Microbiology and Immunology	(1 unit)
260.821 Research Forum in Molecular Microbiology and Immunology	(1 unit)
260.854 Current Literature in Microbial Immunity (See Note 3)	(1 unit)
550.860 Research Ethics (See Note 2)	(1 unit)

550.865 Public Health Perspectives on Doctoral Research (See Note 2) (1 unit)
260.840 Special Studies (See Note 4) (2-8 units)

Suggested, but not required:

140.612 Statistical Reasoning in Public Health II (3 units)
 120.601 Biochemistry – an Introductory Course I (5 units)
 180.610 Principles of Environmental Health II (4 units)
 340.627 Epidemiology of Infectious Diseases (4 units)
 223.662 Vaccine Development and Application (3 units)
 380.642 Child Health and Development (3 units)

TERM 3:

Required:

260.635 Biology of Parasitology (See Note 1) (6 units)
260.822 Seminars in Research in Molecular Microbiology and Immunology (1 unit)
260.821 Research Forum in Molecular Microbiology and Immunology (1 unit)
260.851 Laboratory Rotation (ScM students only) (8 units)
260.855 Literature Course- Pandemics of the 20th Century (See Note 3) (1 unit)
260.840 Special Studies (MHS only - essay preparation) (See Note 4) (8-11 units)

Suggested, but not required:

180.640 Molecular Epidemiology and Biomarkers in Public Health (4 units)
 187.641 Immunology of Environmental Disease (3 units)
 260.650 Vector Biology (3 units)
 260.624 Advanced Virology (3 units)
 260.665 Biological Basis of Aging (3 units)
 340.612 Epidemiologic Basis for Tuberculosis Control (2 units)
 340.629 Medical Mycology (4 units)
 340.654 Epidemiologic and Natural History of Human Viral Infections (6 units)
 140.615 Statistics for Laboratory Scientists I (4 units)

TERM 4:

Required:

260.822 Seminars in Research in Molecular Microbiology and Immunology (1 unit)
260.821 Research Forum in Molecular Microbiology and Immunology (1 unit)
260.657 Vector Biology and Disease Ecology Literature (See Note 3) (1 unit)
260.840 Special Studies (MHS only - essay preparation) (See Note 4) (10-12 units)

Suggested, but not required:

260.656 Malariology (4 units)
 340.651 Emerging Infections (2 units)
 340.653 Epidemiologic Inference in Outbreak Investigations (3 units)
 260.622 Principles of Bacterial Infection (3 units)
 260.664 Molecular Entomology (2 units)
 260.714 Immunogenetics (3 units)
 260.608 Advanced Topics in AIDS Research (3 units)
 260.717 Graduate Immunology: The Immune Response (3 units)
 260.851 Laboratory Rotation (ScM students only) (4-8 units)

Notes:

1. Only **two** of the **four** courses, 260.623 Fundamental Virology, 260.652 Principles of Public Health Ecology, 260.627 Pathogenesis of Bacterial Infections, and 260.635 Biology of Parasitology, are required. Selection should be made in consultation with the academic advisor.
2. As a School wide requirement, all Master's students must take Research Ethics and Public Health Perspectives on Doctoral Research. If students are very interested in research ethics, then 550.860 may be substituted with 306.665 Research Ethics and Integrity (3rd term, 3 units)
3. Only **one** literature course is required. Selection should be made in consultation with the academic advisor.
4. Special studies credit hours are to be used for thesis or essay preparation. During Term 1, this may entail briefly meeting with your academic advisor to discuss how to approach thesis/essay preparation, conducting literature searches, and reading. During Term 2, this should entail more detailed literature searches, reading of relevant papers, and meetings with your academic advisor/primary reader to finalize selection of a thesis/essay topic. During Term 3, this will entail reading relevant literature, drafting a detailed outline of your thesis/essay, and writing of the thesis/essay. During Term 4, this will involve finalizing the writing of your thesis/essay, incorporating suggested edits from your thesis readers, and preparing your final departmental presentation.
5. Students with little or no Molecular Biology or Biochemistry background are strongly encouraged to take one or both of these courses.

Additional course requirements for Sc.M. Students:

The School requires Sc.M. students to complete 12 credits in formal courses outside of their own department, at least 6 of which are within the Bloomberg School of Public Health. All 12 credits must be taken for grade (Pass/Fail is not acceptable).

Required:

260.822 Seminars in Research in MMI (all terms 2nd year)	(1 unit)
260.821 Research Forum in MMI (all terms 2nd year)	(1 unit)
260.820 Thesis Research (2nd year, all terms, credits TBA)	

Suggested (may be required by Advisor)

ME 100.709 Macromolecular Structure and Analysis
 ME 100.710 Biochemical and Biophysical Principles
 ME 260.709 Molecular Biology and Genomics
 ME 260.708 Genetics
 ME 110.728 Cell Structure and Dynamics
 ME 330.709 Organic Mechanisms in Biology
 ME 360.728 Pathways and Regulations
 ME 800.707 Computational Biology and Bioinformatics
 120.852 Current Research Literature (required if taking the above ME courses)

The SOM academic calendar and course schedules can be found here:

<http://www.hopkinsmedicine.org/som/students/academics/>

Additional Course Information. Many university-wide courses can be used to fulfill specific requirements. Consult the catalogs of the various university divisions available for viewing in the Office of the Registrar.

1. Bloomberg School of Public Health catalog -- see interdepartmental programs.
2. School of Medicine catalog.
3. School of Arts and Sciences (Homewood Campus) catalog.

Departmental Seminars. A weekly Departmental Seminar is held at 12:00 pm on Thursdays during the academic year and **all students are required to attend.** Research Forum is held at 12:00 pm on Mondays and **all students are required to attend.**

Students are encouraged to participate in Journal Clubs in Microbial Immunology, Molecular Parasitology, Programmed Cell Death, Vector Biology and Virology, which are scheduled at various times throughout the week.

Laboratory Rotations (Sc.M.). Sc.M. students must conduct at least one laboratory rotation before formal selection of a Thesis Advisor. The required rotation should be performed in the second rotation period and students should register for 260.851, Laboratory Rotation, in the third term. If desired, a second rotation may be performed; register again for 260.851 in the fourth term. See the table below for rotation period dates.

Rotation periods in a series of laboratories broaden a student's knowledge of laboratory techniques and skills, expose him/her to a variety of research areas, help him/her to select a laboratory for thesis research, provide the student an opportunity for interaction with several faculty members, and develop his/her ability to carry out a research project. Faculty from outside MMI are eligible to supervise Sc.M. students. During a laboratory rotation, a student is given a specific research problem of limited scope as his/her rotation exercise. This provides close interaction with the faculty member who supervises the rotation. It is not expected that a student necessarily complete the assigned project. At the end of the laboratory rotation term, the student will give a short oral presentation of his/her research project at the Research Forum in Molecular Microbiology and Immunology (see below). The rotation supervisor will submit a written evaluation of the student's performance to the Student Coordinator and will assign a grade of Pass or Fail. Failing grades will be given for not having spent sufficient time in the laboratory or for an unsatisfactory performance in the laboratory.

The selection of laboratory or laboratories for rotation(s) is the responsibility of the student. Students (with the assistance of their academic advisor) should identify potential laboratories for their rotations and consult with the faculty members in charge of these laboratories to arrange a rotation for a particular period. To assist students in identifying the research interests of the faculty, each faculty member has prepared a short summary of his/her ongoing projects which can be found on their official school web pages:

<http://www.jhsph.edu/dept/MMI/Faculty/index.html>

Rotation Period	Dates	Register in term
First (Not used by Sc.M.)	8/27/09-11/27/09	1
Second (Required Sc.M. rotation)	11/30/09-2/26/10	3
Third (Optional Sc.M. rotation)	3/1/10-5/28/10	4
MMI Sc.M. Laboratory Rotation Schedule		

Sc.M. Students must present reports after each laboratory rotation during weekly Departmental Research Forum. Rotation reports are 20 minutes long. Presentation dates are assigned by the Student Coordinator;

rotation reports generally will be scheduled within one to three weeks of the completion of the rotation.

In preparing a rotation report, students should keep in mind that it is most important to provide sufficient background and a sufficiently good explanation of the experimental rationale to make the rotation project and its objectives understandable by a diverse audience. As noted above, it is not required that students successfully complete their assigned rotation project, and many rotation reports cannot include firm conclusions. This is not a shortcoming if the presentation is clear, intelligible, and presents good analyses of any difficulties encountered.

MHS Essay

The student will select the topic of the essay in consultation with his/her academic advisor or another faculty member. The essay will involve a topic focused on a public health problem, a critical review of the scientific literature, the formulation/evaluation of approaches to solve the problem, and, if applicable, data generated by the student in Special Studies and Research.

Examples of Previous MHS topics include:

1. The Mechanisms of Action of Artemisinin in Treatment of Malaria
2. Development of Effective Treatments for Hantavirus Infection
3. Improved Screening for Cervical Cancer
4. Possible Use of Botulism as a Bioterrorism Agent
5. Epidemiological and Clinical Implications of Microsporidia
6. Impact of Host Genetics on HIV Infection
7. Pathogenic and Neuroprotective Effects of IL-6 in the CNS
8. Is Tourette Syndrome an Autoimmune Disease?

The MHS Essay should be 50-70 pages in length. The length should be dictated by the necessary number of pages required to thoroughly cover the selected topic.

All students are required to edit their essays, ensure that proper English is used, and that the entire essay is grammatically correct. For any student who has forgotten basic English grammar rules, please consult one of the following books:

- The Elements of Style (2007) by William Strunk Jr.
- Scientific English (1995) by Robert A. Day

All students are required to read and cite at least 30 references in their essay. If more references are required to thoroughly review the literature, then more references should be included. References must be cited using one of the following methods:

1. The Alphabet-Number system: number citations in text; list by number in alphabetical order in Reference list.
2. The Harvard system: name and year in text; list in alphabetical order in Reference list.
3. The Vancouver system: number citations in text in order of appearance; order by number in Reference list.

If you are unfamiliar with these reference styles, please consult the web or the book 'Scientific Papers and Presentations' (1997) by Martha Davis. Footnotes for references are not allowed.

Readers and Deadlines for Essay Completion: In most cases, the student's advisor will serve as the primary reader. However, should the student have interests outside the advisor's area of expertise, the advisor may suggest someone else from the Department to be primary reader, but the advisor must remain as one of the 2 secondary readers. We highly recommend that students review prior MHS theses to get an idea of length and sophistication required.

The MHS student and primary reader should have regular meetings to review progress and meet the specified deadlines listed below. The two secondary readers should be selected after the essay topic is determined, one of whom may come from another department. The primary reader must provide editorial and technical critiques to aid in this learning experience. When the primary reader is satisfied with the quality of the essay draft, the student can submit the essay draft to the additional readers, who will read the document for scientific validity, approach, and intelligibility. The secondary readers are responsible for communicating to the student whether or not the essay is acceptable by the specified deadline. It is the student's responsibility to submit a final essay to their advisor, and the advisor must submit an approval letter to Dr. Griffin by the given deadline. All deadlines must be adhered to in order to allow Dr. Griffin sufficient time to communicate with the Registrar. Any student who fails to meet these deadlines will be placed on academic probation. **Failure to meet 2 or more of these deadlines could result in termination from the MHS program.**

MHS Forum Presentation: As part of the requirements of the MHS degree, each student must present their essay orally in the special MHS Forum held in the fourth term (this year, May 21, 2010). All MHS students are required to attend the MHS Forum for the entire time.

Sc.M. Thesis and Forum Presentation. Requirements for Sc.M. theses, details on the format of the written dissertation (e.g., quality of paper, margins, illustrations, cost of binding, etc.) and procedures for thesis submission and approval, along with required dates, are available from the Registrar's office and online at: <https://my.jhsph.edu/Offices/StudentAffairs/RecordsRegistration/MastersCandidateInformation/Pages/default.aspx> and https://my.jhsph.edu/Resources/PoliciesProcedures/ppm/PolicyProcedureMemoranda/Academic_Programs_10_Master_of_Science_Degree.pdf. As part of the requirements of the Sc.M. degree, each student must defend his/her completed thesis orally in the special Sc.M. Forum held in the fourth term of the student's second year (this year, May 24, 2010). All Sc.M. students are required to attend the Sc.M. Forum for the entire time.

Sc.M. Comprehensive Examination. The Departmental Sc.M. Comprehensive Examination constitutes a comprehensive inquiry into the student's grasp of the subject matter underlying disciplines underlying Departmental research. The exam tests the student's understanding of scientific principles and methods, as well as his substantive knowledge of major subjects and related areas. At approximately mid-year, ScM students are furnished with a list of about forty questions from which the comprehensive exam will be drawn. Students are encouraged to consider possible essay answers to these questions as they complete their first-year coursework. At the end of the fourth term (tentatively, May 27, 2010) students are required to answer three questions drawn from this list, including one question in each of two of the areas of Virology, Bacteriology, Disease Ecology/Vector Biology, and Parasitology, and one question in Immunology. Students choose from two questions presented for each area. The exam is closed book and 3 hours in length.

Academic Performance and Academic Probation. Master's students are required to maintain a 2.75 grade point average or better and, as noted above, complete required courses with a grade of B or better. Students who do not comply with these and other academic requirements may be placed on Academic Probation by the Graduate Program Committee. Formal notification of Academic Probation generally will be accompanied by conditions that the student must fulfill in order to be returned to good academic standing. Students who fail to meet those conditions may be dismissed from the program.

Criteria for dismissal from the Masters Programs. Students may be dismissed from the MMI Masters program for reasons that include (but are not limited to) failure to satisfy conditions specified for removal from academic probation, failure to maintain an adequate GPA, failure to pass required courses with a grade of B or better (see above for details), failure of the Departmental Comprehensive Examination, failure to make satisfactory progress in thesis research, violations of academic or professional ethics, and failure to adhere to School and departmental time limitations.

Department Retreat. In the Fall of each academic year, the MMI faculty and students attend a 2 day retreat at a location away from campus. The retreat is held over a weekend and includes faculty presentations and student posters on research currently be conducted in the department. The retreat ends with a key note talk from an investigator outside of MMI. The retreat provides ScM students with an important opportunity to meet faculty and discuss possible rotation and thesis projects. The retreat also provides both ScM and MHS students with the chance to meet faculty and students and learn more about research being conducted in the department. Attending the retreat, including talks and poster sessions is mandatory for ScM students and optional for MHS students. The retreat is free for students. Costs are paid by the Department.

Vacation/Holiday Policy Graduate student holiday and vacation schedules traditionally have been flexible and determined by individual laboratory policy. Guidelines which reflect the Department’s general expectations are outlined below. These guidelines are not intended to eliminate flexibility in the scheduling of holidays and vacation, and do not replace any conditions that might be imposed by fellowships/funding agencies. These guidelines also do not restrict legitimate academic or research activities conducted off campus, such as attendance at scientific meetings and field work. Masters students are generally entitled to the following holidays and vacation time:

- University holidays
- Spring break
- The period between last day of 2nd term and the first day of winter intersession
- For Sc.M. students, a two-week vacation in the second year scheduled by arrangement with the advisor.

Graduate students generally are expected to be present during winter intersession and summer term or as required by their experimental protocols.

Grievances. Students who believe that they have legitimate grievances with their advisor, other faculty, or other students are encouraged to discuss the problems with their advisor (if appropriate), the Graduate Officer, the Chair of the GPC, or the Chair of the department. Advice also can be sought from any Departmental faculty member. Students who wish to pursue grievances at the school level should see http://www.jhsph.edu/schoolpolicies/policy_student_grievance_procedure.html

Animal experiments and protocols. Any student who participates in animal experiments must be added to the appropriate animal protocol before beginning work. Changes to animal protocols (including addition of personnel) are the responsibility of the Principle Investigator of the protocol. Students also must complete online animal research training and must enroll in the Animal Exposure Surveillance Program prior to beginning work. If your thesis or rotation project involves animals, please discuss these matters with your advisor.

Important Dates for MHS Students 2009-2010	
December 22, 2009	Identify primary reader and select essay topic
January 4, 2010	Submit ScM transfer application to Gail O’Connor (only for interested students)
January 29, 2010	Submit ‘MHS Essay Proposal’ form to Gail
February 26, 2010	Submit MHS essay outline to primary reader for approval
April 1, 2010	First draft of essay due to advisor or primary reader

April 19, 2010	Final draft of essay due to secondary readers
May 3, 2010	Advisor sends approval notice to Dr. Griffin
May 7, 2010	Submit approved essay to Gail and the Registrar's Office
May 21, 2010	Departmental Seminar, location TBA

**SUMMARY OF REQUIREMENTS FOR DEGREE CANDIDATES IN THE
DEPARTMENT OF MOLECULAR MICROBIOLOGY AND IMMUNOLOGY**

The chart below lists the combined School and Departmental degree requirements:

REQUIREMENT	DEGREE PROGRAM		
	PhD	ScM	MHS
Comprehensive written exam	+	+	None
Preliminary orals	+	None	None
Dissertation/thesis/essay	+	+	+
Final orals	+	None	None
Seminar presentations	+	+	+

ADDITIONAL DEPARTMENTAL AND SCHOOL INFORMATION

Administrative Personnel. The departmental offices are located in Rooms E5132, E5001, E5005, E5006 and E5008. Twelve staff members serve the needs of the faculty and students.

Theresa Daniel (Room E5132) serves as Department Administrator. She directs all aspects of finances, budgets, permanent equipment, and space requirements for the department and has overall responsibility for the administration of the department and the Malaria Institute. This includes the pre- and post-award grant administration, HR/payroll, equipment and facilities.

Gail O'Connor (Room E5008) serves as Sr. Academic Program Coordinator. She handles all aspects of students' academic careers, tuition, medical and dental insurance and admissions. She attends meetings of several departmental committees concerned with students and academic programs.

Nancy Lance (Room E5008) serves as Sr. Human Resources Coordinator. She handles all HR/payroll related issues for faculty, staff, post-docs and students.

Thom Hitzelberger (Room E5132) serves as Budget Specialist and is responsible for reviewing the accuracy of invoices and preparing fiscal documents required to pay vendors for goods and services. He also catalogs and is responsible for the purchasing of departmental equipment, and is the main contact for reserving the MMI Fifth Floor Conference Room. He handles the mail distribution for the department, and distributes the salary and stipend checks to members of the department. In addition, he serves as "key operator" for the departmental photocopier, printers, and fax machine and also reconciles monthly budget statements.

Tracy Russo (Room E5132) serves as Sr. Research Service Analyst. She is responsible for the development and preparation of research grants and contracts. She provides support and guidance to faculty who are submitting applications or renewals for grants and is responsible for updating the faculty's "other support" for NIH grant applications. Tracy also reconciles monthly budget statements.

Meredith Piplani (Room E5006) serves as Sr. Financial Analyst for the Malaria Institute. She is responsible for monitoring the Malaria Institute finances. She provides support and guidance to faculty who are submitting malaria pilot applications. Meredith also reconciles monthly budget statements.

Debbie Lambert (Room E5001) serves as Research Service Analyst. She is responsible for the development and preparation of research grants and contracts. She provides support and guidance to faculty who are submitting applications or renewals for grants and is responsible for updating the faculty's "other support" for NIH grant applications. Debbie also reconciles monthly budget statements.

Joseph Troilo (Room E5001) serves as Research Service Analyst. He is responsible for the development and preparation of research grants and contracts for the faculty of the Malaria Institute. He provides support and guidance to faculty who are submitting applications or renewals for grants and is responsible for updating the faculty's "other support" for NIH grant applications. Joe also reconciles monthly budget statements.

Konstantin Milman (Room E5005) serves as Web/Systems Specialist for the Department. He is responsible for the maintenance of two web sites (MMI & MRI). He provides PC/MAC support for faculty, staff and students.

Leonid Shats (Room W5713) has oversight of Departmental equipment. Mr Shats provides instruction in use of the Departmental microscopes, performs some routine maintenance, and repairs or arranges repairs of

Departmental equipment. Repair requests are submitted online through the MMI web site.

Chad Barnwell (Room E5006) serves as Budget Specialist and is responsible for reviewing the accuracy of invoices and preparing fiscal documents required to pay vendors for goods and services for the Malaria Institute. Chad also reconciles monthly budget statements.

Ellen Dicks (Room E5132) serves as Administrative Coordinator to the Department Chair and her editorial assistant for the *Journal of Virology*. She is responsible for maintaining Dr. Griffin's daily schedule, arranging her appointments, meetings and travel.

Computer Accounts. See "Information Systems" in the School's *Student Handbook*. All full-time students will be issued an email account at orientation.

Financial Aid. Masters students are not generally supported by Departmental funds. Sc.M. students are eligible for a second-year scholarship from the School after all Departmental requirements except the thesis are fulfilled. This scholarship reduces tuition by 75%. Contact the Student Coordinator for details.

Student/Faculty Forum. Informal meetings are held periodically to facilitate communication between students and faculty. Its purpose is primarily to exchange views and to initiate policy changes. A topic relevant to students is discussed; for example, required courses, finding a post-doc. The Graduate Officer welcomes suggestions for discussion topics. This forum also provides an opportunity to inquire about degree requirements and for meeting informally with faculty and students. Refreshments are served.

MMI Fifth Floor Library. The Department of Molecular Microbiology and Immunology houses the MMI Fifth Floor Library in Room E5133. It is available for individual study sessions and quiet reading. A computer equipped with a CD Rom is available for library searches. Current journals of interest to the Department, bound copies of Departmental doctoral and master's theses, and bound volumes of Departmental publications are available for perusal. **Materials are not to be removed from this room.**

MMI Fifth Floor Conference Room. This room is available for journal club meetings, student or faculty committee meetings, special seminars, and group study sessions. There is a calendar available on the door to reserve the conference room.

MMI Fifth Floor Student Computer Rooms. These rooms (E5003 and E5007) are available to all MMI students only. Seven computers, 2 scanners, and 2 laser printers are available for your use. You must swipe your ID card for access to room E5007.

Departmental Mailboxes. All students in the Department are issued mail-slots located in Room E5131. These slots are used for telephone messages, Departmental and School correspondence and announcements, as well as for any mail addressed to students in care of the Department. **It is important for students to check their mailboxes frequently.** Mail is distributed twice a day, once in the morning and once in the afternoon.

Student Lockers. Student lockers are available and can be reserved during orientation each August. For more information, contact the Student Coordinator.

School Mailboxes. Since the Department provides mail-slots for its students, no School mailboxes will be issued.

Photocopying and Faxing. To use the Departmental photocopier in Room E5133, students must have their badge activated. Please see Thom Hitzelberger to have your badge activated. Only work authorized by the Department, e.g., course-related copying, may be charged.

The Departmental fax machine is located in Room E5133; the number is 410-955-0105. This fax is not free. You may pay cash or charge it to your advisor's budget number with their permission.

Departmental web site (<http://jhmmi.jhsph.edu/>). A great deal of information, many forms, and interactive functions such as repair requests and equipment scheduling are available on the Departmental web site. Some functions require login with your e-mail user name and password.

STANDING COMMITTEES FOR 2009-2010
DEPARTMENT OF MOLECULAR MICROBIOLOGY AND IMMUNOLOGY

<p>COMMITTEE ON APPOINTMENTS AND PROMOTIONS Diane Griffin, Chair George Dimopoulos Gregory Glass Marie Hardwick Marcelo Jacobs-Lorena Gary Ketner Nirbhay Kumar Joseph Margolick Douglas Norris Richard Markham Andrew Pekosz Fernando Pineda Noel Rose Alan Scott Keerti Shah Clive Shiff David Sullivan Milan Trpis Xiao-Fang Yu Fidel Zavala Ying Zhang</p>	<p>COMMITTEE ON ADMISSIONS AND FINANCIAL SUPPORT George Dimopoulos, Chair Jay Bream Elena Levitskaya Richard Markham Andrew Pekosz Jason Rasgon</p>	<p>COMMITTEE ON GRADUATE PROGRAMS Gary Ketner, Chair Greg Glass Marcelo Jacobs-Lorena Sabra Klein David Sullivan Ying Zhang George Dimopoulos (ex officio)</p>
<p>MHS SUBCOMMITTEE Sabra Klein, Chair Douglas Norris Clive Shiff David Sullivan</p>	<p>COMMITTEE ON FACILITIES Alan Scott, Chair Isabelle Coppens Anne Jedlicka Debbie Bradley (ex officio)</p>	<p>MPH ASSOCIATE DIRECTOR Gary Ketner</p>
<p>EXECUTIVE ASSIGNMENTS Graduate Officer: Human Safety Officer: Richard Markham Research Forum Coordinator: Jason Rasgon Seminar Coordinator: George Dimopoulos Computer Room Maintenance: Konstantin Milman Ombudsman: Dr. Alan Scott</p>	<p>Graduate Student Association President: Dionne Robinson Faculty Liaison: Ben Blumberg Research Forum: Kyle McLean Research Seminar: Kyle McLean Student Assembly Representative: Janet Tai (will continue 2009-2010) Diego Espinosa (will begin 07/01/2010) Social Coordinators: Gillian Legault and Samantha Baer Newsletter: Kyle McLean, Wendy Lin and Eva Tse Recruitment: Eileen Geoghegan, Kyle McLean, Erin Lalime, Andrea Radtke and Stefanie Trop Ombudsman: Dr. Alan Scott</p>	