

MIM Supplement to the IBMS Handbook of Policies and Procedures Integrated Biomedical Sciences (IBMS) Graduate Program

The purpose of this Handbook supplement is to clarify and fill gaps regarding the implementation of general procedures found in the IBMS Handbook of Policies and Procedures. Although no procedure described herein contradicts or conflicts with policies of the IBMS Graduate Program, this supplement is intended to describe instances in which implementation of certain procedures may differ from that described by other IBMS disciplines (*i.e.*, MIM-specific).

Furthermore, in as much as this Handbook supplement is not intended to replace the IBMS Handbook, only those sections with MIM-specific discipline implications are included. That is, much of the programmatic parent Handbook is not reproduced here and should remain the primary source of guidance for students and faculty members regarding the policies and procedures of the IBMS Graduate Program.

August 2021

Table of Contents

	Page
I. Discipline Membership and Organization	4
II. Student Progression and Sequential Procedures of the MIM Discipline	4-11
• Compact and Milestone Agreements Between Graduate Students and Their Dissertation Mentors	5
• MIM Discipline Plan of Study and Timeline	5
Year 1 Fall semester:	5
Year 1 Spring semester:	5
Year 2:	6
- Qualifying Examination	6
- Admission to Candidacy	7
Years 3-5: Dissertation Supervising Committee membership and dissertation research proposal	7
- Enrolling for Dissertation Credit (IBMS 7099-5MIM)	7
• Dissertation Research and Dissertation Supervising Committee	8
- Formation and Membership of the Dissertation Supervising Committee	8
- Preparation and Approval of the Dissertation Research Proposal	8
- Meetings of the Dissertation Supervising Committee	9
- Writing the Dissertation and Registering for Final Hours	9
- Defense of Dissertation	10
- Registering <i>In Absentia</i> (INTD 1000)	11
III. Evaluating Student Academic Progress	11
• Grade Point Average	11
• "Satisfactory/Unsatisfactory" Coursework	11
• Qualifying Examination Outcomes	12
• Research/Academic Progress	12
• Research Committee Meetings	12
• Expected Time-to-Completion of Degree Requirements	13
IV. Withdrawal or Leave of Absence (LOA) from the IBMS Graduate Program	13
V. Change of Degree Objective – Ph.D. to M.S.	13
• Voluntary change of degree objective	
• Mandatory change of degree objective	
VI. Change of Dissertation Mentor	13
VII. Outside employment	13
VIII. Student Vacation Policy	13
IX. Student Travel	14
Appendix I. Milestones Agreement	
Appendix II. Student-Mentor Compact	
Appendix III. Qualifying Examination (IBMS 7001-5MIM)	
Appendix IV. Dissertation Research Proposal	

Abbreviations used in this Handbook:

COGS	Committee on Graduate Studies (the IBMS faculty governance body of the IBMS Graduate Program that establishes and implements programmatic policies and procedures; composed of the DDs of each of the IBMS disciplines).
DC	Discipline Coordinator (the program coordinator who 1) Supports the activities of the Discipline Director; and 2) Oversees the administrative aspects of each of the IBMS disciplines)
DD	Discipline Director (the academic head of the MIM discipline)
DEC	Discipline Executive Committee (the academic leaders of the MIM discipline; chaired by the DD)
DSC	Dissertation Supervising Committee (5-member committee, chaired by the Dissertation Mentor/Supervising Professor, that monitors a student's research progress)
GFC	Graduate Faculty Council (composed of chairs of all COGS of the numerous PhD and MS programs of the GSBS; the oversight and governance body of the GSBS that confers degrees and is responsible for the GSBS bylaws)
IBMS	Integrated Biomedical Sciences (the name of the graduate program composed of the 7 disciplines/tracks)
MIM	Molecular Immunology & Microbiology (name of one of the 7 IBMS disciplines)
MIMG	Microbiology, Immunology & Molecular Genetics (name of the GSBS department in which most MIM Graduate Faculty members are appointed)

Molecular Immunology & Microbiology (MIM) Discipline Student Guidelines and Procedures: MIM Discipline-Specific Supplement

The following is an MIM Discipline-specific supplement to the IBMS Handbook of Policies and Procedures; the IBMS Handbook should be consulted for most explanations of programmatic policies and procedures.

Although there are some “discipline-specific” expectations, the MIM discipline continues to promote integration and collaboration with other IBMS disciplines, and to support the mission and expectations of the IBMS Graduate Program, and in no way contradicts the policies of the Program.

I. MIM Discipline Membership, Organization, and Responsibilities

Molecular Immunology & Microbiology (MIM) Discipline. The MIM discipline of the IBMS Graduate Program is composed of IBMS Graduate Faculty members who share academic and research interests in immunology, infectious disease, and certain immunopathologies associated with autoimmunity, allergy, and cancer. These faculty members have officially declared an affiliation with the MIM discipline, but may also have affiliations with other IBMS disciplines. Furthermore, although there is no direct administrative connection between the MIM discipline of the IBMS Graduate Program and any specific UT Health SA department, strong administrative relationships exist with the Department of Microbiology, Immunology, & Molecular Genetics.

MIM Discipline Director (DD). The internal organization and function of the IBMS disciplines are described in **Supplements II and III of the IBMS Handbook of Policies and Procedures**. Briefly, the MIM DD is given authority by the IBMS COGS to serve as the administrative head of the discipline and its representative on the Committee on Graduate Studies (COGS). The DD also serves as Student Advisor for all students who enter the MIM discipline, and as such will advise students regarding matters of curriculum and academic standing.

Discipline Executive Committee (DEC). The MIM DEC, chaired by the Discipline Director, is responsible for implementing all policies of the IBMS Graduate Program. These responsibilities include, but are not limited to: 1) Creating the MIM Plan of Study, including the MIM discipline-specific portion of the curriculum; 2) Monitoring all aspects of MIM student academic progress and standing in the IBMS Graduate Program; 3) Establishing research committee meeting schedules and reporting mechanisms that guarantee timely evaluation of each MIM student’s research progress; 4) Supporting processes, consistent with policies and expectations of the IBMS COGS, for administering Qualifying Examinations, and seeking approval for MIM student research committee memberships, research proposals and dissertation defenses; 5) Making recommendations to the GSBS Dean on student matters regarding academic probation and dismissal, leaves of absence, and ethical violations; and 6) Mediating disputes between MIM students and their Dissertation Mentors/research supervising committees.

Discipline Academic Coordinator (DC) – The MIM DC provides administrative support to the MIM DD in the implementation of IBMS policies and MIM-specific procedures. The DC will: 1) Monitor and support MIM students as they seek to complete their MIM Plan of Study and academic milestones; 2) Provide administrative support to the MIM DEC; and 3) Be the MIM liaison to the IBMS Graduate Program by providing support to the IBMS Program Office and serving as a member of the IBMS Council of Discipline Coordinators.

II. Student Progression and Sequential Procedures of the *MIM Discipline*

IT IS THE RESPONSIBILITY OF EACH MIM STUDENT TO ADHERE TO THE TIMELINE DICTATED BY THE PLAN OF STUDY OF THE MIM DISCIPLINE AND TO SUBMIT ALL DOCUMENTATION REQUIRED TO VERIFY SATISFACTORY ACADEMIC PROGRESS IN THE IBMS GRADUATE PROGRAM. A DELAY IN THE PROGRESSION DESCRIBED BELOW COULD RESULT IN A STUDENT RECEIVING A GRADE OF UNSATISFACTORY (“U”) FOR RESEARCH/ACADEMIC PROGRESS, AND POSSIBLY A RECOMMENDATION FOR DISMISSAL FROM THE PROGRAM. THE MIM DEC MAY CONSIDER GRANTING A TEMPORARY DELAY IN THE TIMELINE DUE TO JUSTIFIABLE CIRCUMSTANCES.

The following is an abbreviated summary of expectations and requirements of all students enrolled in the MIM Discipline. Some requirements are explained in further detail in the **IBMS Handbook of Policies and Procedures**. Although these minimal expectations are provided as a guide to students and faculty, it is understood that one of

the strengths of the IBMS Graduate Program is its flexibility and adaptability with regard to responding to the needs of individual students.

A. Milestones Agreements and Student-Mentor Compacts Between Graduate Students and Their Dissertation Mentors

By the end of the Year 1 Spring semester, a formal meeting and discussion between a student and the student's Dissertation Mentor is expected in order to maintain the integrity of the guiding principles and milestones of the MIM discipline and the IBMS Graduate Program. **Official forms for Milestones Agreements and Student-Mentor Compacts can be obtained and then submitted on the IMPACT website.**

Milestones Agreement. Students are expected to review/discuss/sign with the Dissertation Mentor the official MIM Milestones Agreement. Completed by the end of the student's Year 1 Spring semester, the purpose of this document is to confirm that a student and the student's Dissertation Mentor have been clearly informed regarding programmatic milestones that must be completed prior to receiving the Ph.D. degree and the expected timeline to complete those milestones. Failure to adhere to the timeline is a demonstration of unsatisfactory academic progress and may result in a student losing funding, being placed on academic probation, or dismissal from the program. An example of the Milestones document is shown in **Appendix I of this Handbook Supplement.**

Student-Mentor Compact. In addition to the Milestones Agreement, and also to be completed by the end of a student's Year 1 Spring semester, is the Student-Mentor Compact. Students and dissertation mentors must meet to discuss expectations for successfully performing in the mentor's laboratory. This two-way discussion culminates in the signing and official filing of the Student-Mentor Compact via IMPACT. An example of the compact document is shown in **Appendix II of this Handbook Supplement.**

B. MIM Discipline Plan of Study and Timeline

Full-time student status requires class enrollment in a **minimum of 12.0 SCH per semester**. Prior to graduation, every student must have enrolled in a **minimum of 72.0 total SCH**. It is expected that students will graduate with **no more than 130 SCH**.

The MIM Discipline has developed, in consultation with the IBMS Curriculum Committee, a Plan of Study and timeline for its Ph.D. students. The Plan has been reviewed and approved by the COGS and the Associate Dean for Academic Affairs of the GSBS. In addition, a modified Plan of Study is provided to dual-degree students (*i.e.*, MD PhD; DDS PhD).

Expected Timeline for MIM Ph.D. Students:

Year 1 Fall semester: All students will complete the common core courses of the IBMS Graduate Program (IBMS 5000 Fundamentals of Biomedical Sciences; TSCI 5070 Responsible Conduct Of Research; and IBMS 5008 Laboratory Rotations). By the end of the Fall semester of Year 1, each student will 1) select a permanent dissertation mentor; and 2) select a particular IBMS discipline and its Plan of Study.

Year 1 Spring semester: Beginning in the Year 1 Spring semester, it is crucial that students should consult with the MIM DC so as to enroll in appropriate required coursework and to be made aware of other discipline-specific expectations. The typical MIM Discipline Plan of Study will include a mixture of IBMS required courses (*e.g.*, CSAT 5095 Experimental Design and Analysis, IBMS 6090-5MIM Seminar and IBMS 6097-5MIM Research, and IBMS 7010-5MIM Journal Club/Student Presentations) and other discipline-specific courses.

At the end of a student's Year 1 Spring semester, in consultation with the student's Dissertation Mentor, a **Temporary Supervising committee (TSC)** should be identified whose two additional members are to assist the student in developing ideas for a dissertation research project. There is a two-fold purpose of the Temporary Supervising Committee (TSC).

First, the TSC, composed of the student's Supervising Professor/Dissertation Mentor plus two additional members selected from the MIM discipline, will be available, as needed, for initial guidance regarding the earliest stages of the student's research. Students are encouraged to meet with their TSCs during the Fall semester of their second year in the IBMS Graduate Program. This is intended to be a brief, informal "getting to know you" kind of meeting with no expectations of significant research progress or submission of an official report of the meeting outcome.

Second, the TSC will become (minus the Supervising Professor) the core of the student's Qualifying Exam Committee (see IBMS Handbook or IBMS 7001-5MIM Course Director for additional details)

Year 2: The Year 2 MIM Discipline Plan of Study includes a mixture of recurring IBMS courses and MIM-specific courses, with the **Qualifying Examination** (IBMS 7001-5MIM) taking place in the Spring semester, followed immediately by **Admission to Candidacy**.

Qualifying Exam The purpose of the Qualifying Exam (QE) is to determine if students are prepared (*i.e.*, are "qualified") to successfully progress through the remaining years of their training. The QE is a S/U graded course in the IBMS curriculum (IBMS 7001-5MIM) and is required of all MIM-discipline Ph.D. students. Although all IBMS disciplines carry out their QEs with the same principles and goals, some details regarding the logistics of the process may differ slightly from discipline-to-discipline. Therefore, it is important that MIM students **refrain from taking advice regarding the QE from students or faculty members of other IBMS disciplines**. In addition, timing may vary slightly for MD/PhD or DDS/PhD students. The most essential elements of the QE process is shown here; additional information and a **Qualifying Examination Checklist** can be found in **Appendix III of this Handbook Supplement**.

Objective: The purpose of the Qualifying Examination (QE) is to determine if a student has met programmatic expectations with regard to: i) Acquiring a level of scientific reasoning and a knowledge base in his/her field of study appropriate for a graduate student at the current stage of training; ii) Demonstrating skills of problem-solving and development of experimental strategies designed to test hypotheses associated with a specific scientific problem; and *MIM*) Demonstrating the ability to defend experimental strategies proposed for solving scientific problems. Successful completion of the QE is required for Admission to Candidacy and continuation in the IBMS Ph.D. program.

Expectations: The Qualifying Exam (QE) is an S/U graded course in the IBMS curriculum (IBMS 7001-5MIM), is required of all MIM discipline IBMS Ph.D. students, and **must be completed during the Spring semester of a Ph.D. student's second year in the IBMS program**. This timeline may vary slightly for dual-degree students. Failure to complete the QE during the specified semester may result in an Unsatisfactory (U) being posted on the student's transcript and could delay the student's admission to candidacy. Deviation from the expected timeline is possible only if justified and approved by a student's Discipline leadership in consultation with the student's Dissertation Mentor. Therefore, a student who does not complete the QE in the appropriate semester may receive a grade of Incomplete (I) until the exam is completed.

Minimal expectations in the design and administration of the QE include the following: 1) Prior to initiation of the QE, the expectations and process of the exam will be provided to the students. 2) Members of the *MIM discipline* Graduate Faculty will be identified and approved by the *MIM Discipline* leadership who will serve as the QE Committee and who will administer and report outcomes of the examination. 3) A relevant unsolved problem in the biomedical sciences will be identified that is approved by the Discipline QE Committee and will serve as the basis for the examination. The QE question must be based on an idea conceived and developed by the student, and must not duplicate any aims in his/her mentor's active or pending grants. A written declaration from the student should be submitted to the examination committee in order to clarify the relationship between the proposed research and that of the student's Dissertation Mentor's research. 4) An hypothesis-driven research proposal will be written by the student that describes experimental strategies for solving the QE problem. 5) An oral defense-of-proposal will examine the student's problem-solving process, and the soundness of the student's experimental design. Student Dissertation Mentors may attend oral

defenses, but are considered to be guests and not members of the examining committee; and should only ask questions when invited by the QE committee chair.

Grading: Following the oral defense of the proposal, the QE faculty committee will discuss the outcome and determine if Honors, Satisfactory, or Unsatisfactory is to be recommended to the student's Discipline Director. This grade, posted for the IBMS 7001-5MIM course, should represent the consensus of the examination committee. In addition, **the COGS-approved QE reporting form should be submitted** by the chair of the QE committee to the Discipline leadership indicating any recommendations that may be required to enhance the academic progress of the student. The Discipline Director is responsible for ensuring that the report is filed with the Assistant Director of the IBMS Graduate Program. Successful completion of the QE is required for Admission to Candidacy and continuation in the IBMS Ph.D. program.

- In the event that a student passes the QE, a grade of Satisfactory (S) or a grade of Honors (H) will be posted for IBMS 7001 by the student's discipline director on the Registrar's grade site.- If a student fails the QE, a grade of Unsatisfactory (U) may be posted for IBMS 7001-5MIM. Alternatively, a grade of Incomplete (I) may be posted, and a **maximum of one remediation examination** will be allowed that must be completed within 60 days of the original exam). If a student successfully passes the second attempt, the grade of "I" will be changed to Satisfactory (S).
- If a student does not successfully remediate, a grade of Unsatisfactory (U) will be posted for IBMS 7001-5MIM.

Admission to Candidacy. During the Year 2 Spring semester, and **only after passing the Qualifying Examination**, a student must seek, via the MIM DEC, approval by the IBMS COGS for Admission to Candidacy for the Ph.D. degree. **The approval process is accomplished using the electronic form found on the IMPACT website.** Approval by COGS for Admission to Candidacy is based on 3 requirements:

1. Successful completion of the Qualifying Examination (evidenced by approval indicated by members of a student's QE committee and a **posting of "S" for the IBMS 7001-5MIM course**).
2. A positive endorsement of the student's potential for performing successful independent research (indicated by the online approval of the Dissertation Mentor).
3. Verification of satisfactory academic standing, including the maintaining of a 3.0 grade point average in course work. **Students cannot advance to candidacy while on academic probation.**

When all criteria are met, Admission to Candidacy requires final approval by the GSBS Dean.

Years 3-5: The MIM Discipline Plan of Study includes a mixture of recurring IBMS courses and MIM-specific courses. Approval of a student's **Dissertation Supervising Committee membership** (see below for specifics) and the student's **first meeting** with the approved committee **must take place prior to the end of the Year 3 Fall semester** in order to maintain a Satisfactory (S) grade in IBMS 6097-5MIM (Research/Academic Progress). Typically, at the first meeting the student should discuss the content of the dissertation research proposal so that it can be submitted to the IBMS Graduate Program and the GSBS Dean **prior to the end of the Fall semester**.

Once the committee membership and research proposal are approved, all students are required **to meet at least once per semester** with Dissertation Supervising Committees; failure to do so will result in the posting of an Unsatisfactory (U) grade for Research/Academic Progress (IBMS 6097-5MIM).

Enrolling for Dissertation Credit (IBMS 7099-5MIM). Once a student's dissertation proposal and Dissertation Supervising Committee membership are approved by the GSBS, enrollment in the Dissertation Course is allowed. A **minimum of 2 semesters of IBMS 7099-5MIM** is required for graduation by the Graduate School for graduation.

Final hours. Once a student has reached a stage in his/her research program, when the dissertation defense and graduation are imminent (usually in the fifth year of study), a student may enroll in Final Hours. An official

form must be submitted requesting enrollment in Final Hours. This allows a student the one-time opportunity to register for 3 credits hours of Dissertation while still maintaining full-time student status, thus reducing tuition costs. Students enrolled in final hours are expected to maintain active participation in discipline and laboratory activities. **Final Hours may not be taken more than once.** If a student does not graduate during the semester when enrolled in final hours, full-time enrollment (12.0 credit hours) must resume in all subsequent semesters by resuming all recurring courses delineated in the student's Plan of Study (*i.e.*, Seminar, Journal Club, Research Progress Report; although a student expecting to defend within the first semester back to a full credit load is enrolled in RPR, the student is not expected to present in RPR).

C. Dissertation Research and the Student's Dissertation Supervising Committee (DSC)

Formation and Membership of the Dissertation Supervising Committee

Following successful completion of the Qualifying Examination and Admission to Candidacy, and generally early in the Year 3 Fall semester, an MIM student is expected to request approval from the MIM DEC for the membership of a Dissertation Supervising Committee (DSC). Then, **prior to the last day of the Year 3 Fall semester**, a student is expected to submit a request for official approval for the DSC membership from the IBMS COGS and the GSBS Dean. This request is obtained via the IMPACT website and occurs **concurrently with submission of the Dissertation Research Proposal (below)**. Once formed, the Supervising Committee is expected to assess the student's research progress **at least once per semester**.

DSC membership

The membership of a student's Dissertation Supervising Committee (DSC) should provide the expertise necessary to ensure appropriate scientific and academic guidance to the student. Membership must be approved by the MIM DEC and by the Dean of the GSBS. With the obvious exception of the Dissertation Mentor, the DSC may, but is not required to, retain members from previous committees.

The minimum composition of student 5-member dissertation committees should reflect the following:

1. The student's Dissertation Mentor, now to be referred to as the Supervising Professor.
2. Two members from the IBMS Graduate Faculty with primary affiliations in any IBMS discipline, but typically in the MIM Discipline.
3. One member from the IBMS Graduate Faculty with a primary affiliation in a discipline other than the MIM Discipline.
4. One member from an institution of higher education or research institute approved by the student's discipline and holding no faculty appointment at the UTHSA.

Changes in membership. Additional members from the institution may be added if a particular expertise is required. Changes in membership of the DSC are allowed at any time but subject to approval by the MIM DEC and submission of the request on IMPACT.

Preparation and Approval of the Dissertation Research Proposal

Approval of the Dissertation Research Proposal should be obtained via IMPACT **before the end of the Year 3 Fall semester**. Additional information is provided in **Appendix IV of this Handbook Supplement** (below) and in the **IBMS parent handbook**. Briefly, the research proposal should be **approximately 5 pages in length**, and should follow a structure that includes **3 sections**: 1) **Background information** that indicates the significance of the proposed project and the **main hypothesis to be tested**; 2) **Strategies/methods of investigation and analysis** to be employed; and 3) **References** of key publications that support the hypothesis and strategies described in the proposal. Preliminary data are not required but can be included to demonstrate feasibility of the project. Following presentation of the research proposal to the Dissertation Supervising Committee, the student will modify the content until it is acceptable to the Committee. Once approved by the DSC, **the research proposal is to be submitted via**

the **IMPACT website** (with all DSC signatures except the outside committee member). Students should also seek electronic approvals for the membership of the student's **Dissertation Supervising Committee** (including the official naming of the Supervising Professor); thus, an electronic version of the Dissertation Proposal should be submitted concurrently.

Failure to receive GSBS approval for both the Dissertation Supervising Committee and the Dissertation Research Proposal by the last day of the Year 3 Fall semester will result in the posting of an Unsatisfactory (U) grade for IBMS 6097-5MIM (Research/Academic Progress). Requests for extensions of this deadline must be fully justified and submitted in writing to the MIM DD prior to the end of the Fall semester. The DC should report all extensions to the IBMS Program Office. If an extension is granted, an Incomplete (I) will be posted in the student's transcript. A deadline for completing these requirements early in the next Spring semester will be set by the DD (generally within 30 following the first day of the next semester). Once requirements are met, a change of grade request will be submitted converting the Incomplete into a Satisfactory (S). If the student fails to meet the required deadline, the Incomplete will be converted into an Unsatisfactory (U) on the student's transcript.

Once the Graduate Dean approves a student's dissertation committee composition and dissertation proposal, **amendments to either will require re-approval** if such changes involve the deletion or addition of a committee member, or a substantial revision to the candidate's dissertation research project (such as an addition/replacement of a specific aim). Re-approval is not necessary if alterations in the research plan do not substantially change the general context of the dissertation proposal.

Meetings of the Dissertation Supervising Committee

Students are required to meet with their Dissertation Supervising Committees (except for the outside member) **at least once per semester**. Additional meetings may be required as determined by the MIM DEC and/or the student's Supervising Professor. Written reports of all meetings with the DSC must be submitted to the DC for filing and submission to the IBMS Program Office. It is the responsibility of the student to send updates and summaries of the meeting outcomes to the outside committee member.

At research committee meetings, a student should provide each member of the committee with a written progress report that includes a statement of the aims of the research project/dissertation proposal, the progress that was made since the previous committee meeting toward satisfying the aims and an outline of future plans (this information can be provided in a printed Pdf conversion of the slides used during the student's presentation). During the meeting, the student should summarize the project background, relevant published work that has an impact on the research and the results that he/she has obtained with emphasis on the experimental findings made since the last meeting. Data in the form of figures and tables summarizing recent progress is generally appropriate. Members of the Dissertation Supervising Committee will record their evaluations of student progress using the official IBMS committee meeting report form.

Writing the Dissertation and Registering for Final Hours

When the DSC is satisfied that the research accomplished by a student is of sufficient quality and quantity to constitute a significant contribution to the field (*i.e.*, the area of the student's studies), formal permission is to be granted to the student to write his/her dissertation.

As a student approaches defense and graduation, it is never too early to consult the GSBS website for graduation timelines and required deadlines, and other requirements: [GSBS website](#) under **Quicklinks → **Resources (Graduation Information)**.**

Prior to writing the dissertation, usually during the semester prior to defense-of-dissertation, writing guidelines can be obtained from the Associate Dean of Academic Affairs. The final draft of the dissertation must be uploaded as a PDF file into [ProQuest](#) for formatting review after the defense.

When writing the dissertation, a student should submit drafts to the Supervising Professor until they are both satisfied that it is a well-written document containing all of the experimental and background information promised to the DSC. Once the Supervising Professor approves a final draft of the dissertation, complete copies are to be submitted to each member of the DSC, including the external member. **Prior to requesting permission to officially defend the dissertation**, the members of the DSC should be given a reasonable period of time, **usually 2-3 weeks**, in which to evaluate the document. In the event that two or more members of the DSC feel that the dissertation is not suitable for defense, a student must make appropriate changes, prior to the final defense, until the committee is satisfied. **Extensive revisions may require rescheduling the defense.** The MIM DEC is the arbiter of disputes that cannot be resolved between a student and DSC. When the DSC judges the dissertation to be suitable for defense, a student must then submit a Request for **Final Oral Examination** via the IMPACT website to obtain all of the required signatures, indicating approval of the dissertation and the examination date. Copies of this form, plus dissertation abstract and vita, must be received by the Dean's Office **at least two weeks before the dissertation defense date.**

Credentials of a student who completes the defense and all degree requirements will be presented by the MIM DD and/or IBMS COGS chair to the Graduate Faculty Council (GFC) for final review. The GFC meets on the **second Friday of each month**. Therefore, degree requirements must be met so that COGS recommendation can be considered no later than the May meeting of the GFC so that the degree can be conferred in May, thus allowing the student to "walk the stage" at the May graduation ceremony.

Defense of Dissertation

Public Seminar - The student will present a public seminar that summarizes his/her dissertation research accomplishments. A public announcement of the dissertation defense will be distributed by the Office of the GSBS Dean so that all interested persons may attend the public seminar. At the seminar, the candidate will field questions from members of the audience who are not on the DSC.

Closed-door Defense - Following the public seminar, the candidate will meet with the DSC in a closed-door session for an intensive and detailed oral examination of the dissertation research. The committee members will vote on the candidate's success or failure to adequately defend the dissertation research. If the student passes the Final Oral Examination, the outcome of the DSC's deliberations are sent to the IBMS COGS via the IMPACT website; that result is then forwarded to the GFC for its consideration. However, more than one vote for failure indicates failure of the examination. If the student fails the Dissertation Defense, the DSC will submit a recommendation to the MIM DEC regarding corrective action; the DD will call a meeting of the DEC to consider the committee's recommendation and determine what action should be taken.

Approval of Written Dissertation - The DSC members must also indicate their approval of the final written dissertation document by placing their signatures on the "Approval Page" of the dissertation. **Should extensive revisions of the dissertation be required** by the DSC, the Supervising Professor may withhold his/her signature on the dissertation Approval Page until all of the necessary changes are made to the dissertation. Under these circumstances, each member of the DSC should be given the option to review revisions in the dissertation prior to the certification of the final document by the Supervising Professor. The MIM DEC is the arbiter of disputes that cannot be resolved between a student and DSC. Once requested revisions are made and the Approval Page is signed by members of the committee, the student should submit GSBS Form 43 via IMPACT requesting approval. **Even if a student passes the Dissertation**

Defense, the final version of the dissertation must be approved by the Dissertation Supervising Committee before the GFC will consider a recommendation that the degree be awarded.

Registering *In Absentia* (INTD 1000)

Students must be registered for the semester in which they graduate. All fees and tuition apply. *In Absentia* registration allows students to maintain student status at the university while completing research elsewhere. *In Absentia* may also allow students who have completed all requirements for graduation to enroll for purposes of degree conferral. Registration *In Absentia* is designated as a zero credit hour and the student is assessed a fee. Students using the *In absentia* designation must successfully defend the dissertation or thesis within the 2 weeks prior to the final GFC meeting of the semester. All forms required by the GSBS and the final approved dissertation or thesis must be submitted in accordance with the timeline for the first degree conferral date of the new semester.

The student who expects to defend the dissertation or thesis in this interval should register for one credit hour for the next semester. Following the successful defense of the dissertation, the student may drop the one credit hour and register *In Absentia* for the coming semester. This must be accomplished before the first class day of the new semester. Registration *In Absentia* is designated as zero credit hours and the student will be charged a \$25 fee.

III. Evaluating Student Academic Progress

The Molecular Immunology & Microbiology (MIM) Discipline will review the academic progress of its students at least twice per year, usually at the end of the fall and spring semesters. However, if at any time a Graduate Faculty member perceives that a student is not making sufficient progress in the program, the matter can be brought to the attention of the DD so that the situation may be addressed promptly.

When a student's progress is being reviewed and it is anticipated that the review may result in an action that will negatively affect the status of the student in the program (*e.g.*, dismissal from the IBMS Graduate Program), the student who is the subject of that review will 1) be informed that such a review will be taking place; and 2) be asked to provide any relevant information or material that the student feels the MIM DEC should consider during its deliberations. Furthermore, the DD will invite the Supervising Professor to the meeting in order to obtain additional information about the student's academic progress. The student will be notified of the outcome of the evaluation as soon as is possible.

The following six sections describe expectations that reflect satisfactory academic progress:

• Grade Point Average

All MIM students are expected to maintain a 3.0 GPA. Any student whose GPA drops below 3.0 will be placed on academic probation. Remediation may be required. The form of remediation, determined in consultation with the appropriate Course Director(s), will be communicated in writing to the student by the MIM DD. The MIM DEC will determine the manner and time frame for rectifying the academic deficit. If the deficit is not rectified as required by the MIM DEC, a report will be submitted to the Chair of the IBMS COGS with a recommendation that the student be considered for dismissal from the IBMS Graduate Program based on a lack of academic progress.

Any student who receives an "F" in any course must retake the course. Moreover, receiving an "F" grade may be grounds for dismissal from the IBMS Graduate Program.

• "Satisfactory/Unsatisfactory" Coursework

For certain courses, student performance is reported as Unsatisfactory (U) or Satisfactory (S) or Honors (H). If a student does not show an appropriate level of participation and proficiency in these courses

and receives a “U”, the MIM DEC will place the student on “academic watch”. If a student receives two “U”s in successive semesters, the MIM DEC must consider this as grounds for dismissal from the IBMS Graduate Program. If dismissal appears warranted, the student will be notified and a recommendation for such an action will be submitted to the Chair of the IBMS COGS.

- **Qualifying Examination Outcomes**

Candidates for the Ph.D. degree must pass **IBMS 7001-5MIM** (Qualifying Exam; see above). Qualifying Exam Committee members will evaluate student performance based on 1) the preparation and oral defense of a research proposal designed to answer an experimental question, as well as 2) the adequacy of the student's general knowledge associated with aspects of the proposal. A grade of Unsatisfactory (U) or Satisfactory (S) or Honors (H) will be given for performance in the QE. The chair of the QE Committee will report the deliberations of the committee via IMPACT.

- **Research/Academic Progress**

Each semester, a grade of Unsatisfactory (U) or Satisfactory (S) or Honors (H) is given for research/academic performance (**IBMS 6097-5MIM**). The grade is determined by two factors. First, each semester the student's Supervising Professor will submit a recommendation for “H” or “S” or “U” to the DD. This determination is made in consultation with the student's DSC via reports of committee meetings submitted each semester and based upon the student's overall performance in the laboratory including experimental progress, academic development, effort and, when appropriate, progress in writing the dissertation. Second, satisfactory research/academic progress reflects a student's adherence to the expectations of the IBMS Graduate Program, the MIM Discipline, and the Student-Mentor Compact and Milestones Agreement. This includes satisfying programmatic requirements, filing required forms and documentation, and progressing through the program according to the expected timeline.

- **Research Committee Meetings**

Each student must meet with his/her Dissertation Supervising Committee **at least once each semester** to present and discuss progress in research activities (see previous sections of this Handbook for details). Additional meetings may be required as determined by the student MIM DEC and/or the student's Supervising Professor. At research committee meetings, a student should provide each member of the committee with a written progress report that includes a statement of the aims of the research project/dissertation proposal, the progress that was made since the previous committee meeting toward satisfying the aims and an outline of future plans (this information can be provided in a printed Pdf conversion of the slides used during the student's presentation). During the meeting, the student should summarize the project background, relevant published work that has an impact on the research and the results that he/she has obtained with emphasis on the experimental findings made since the last meeting. Data in the form of figures and tables summarizing recent progress is generally appropriate. Members of the Dissertation Supervising Committee will record their evaluations of student progress using the official IBMS committee meeting report form.

Failure to meet with the DSC during a particular semester will result in the posting of an Unsatisfactory (U) grade for IBMS 6097-5MIM Research/Academic Progress. Requests for extensions of this deadline must be fully justified and submitted in writing to the MIM DD prior to the end of the relevant semester. Simply not wanting to do it or having scheduling problems due to waiting until the last minute, are not acceptable justifications. The DC should report all extensions to the IBMS Program Office. If an extension is granted, an Incomplete (I) will be posted in the student's transcript. A deadline for holding a committee meeting early in the following semester will be set by the DD (generally within 30 days following the first day of the next semester). Once the student holds the committee meeting, a change of grade request will be submitted by the DD converting the Incomplete into a Satisfactory (S). If the student fails to meet the required deadline, the Incomplete will be converted into an Unsatisfactory (U) on the student's transcript. A student who receives two "U"s in Research/Academic Progress may be considered for dismissal from the IBMS Graduate Program

- **Expected Time-to-Completion of Degree Requirements**

Ph.D. students are usually expected to complete their degree requirements, including the dissertation defense, in **approximately five years of full-time study**. If a student has not defended the dissertation before completing six years of full-time studies, he/she is subject to consideration of dismissal from the IBMS Graduate Program for lack of research/academic progress.

UT System requirements: All Ph.D. students must enroll in a **minimum of 72 credit hours** in order to graduate. It should also be noted that the UT System requires that Ph.D. students reach graduation **prior to achieving 130 credit hours** (the "130 hour rule"). After 130 credits hours, students may be required to pay out-of-state tuition.

IV. Withdrawal or Leave of Absence (LOA) from the IBMS Graduate Program

Details regarding requesting a LOA can be found in the **IBMS Handbook of Policies and Procedures**.

VI. Change of Degree Objective – Ph.D. to M.S.

Details regarding a change in degree objective can be found in the **IBMS Handbook of Policies and Procedures**. The process differs depending on whether the student making the request is in satisfactory vs. unsatisfactory academic standing.

VI. Change of Dissertation Mentor

If at any time during an IBMS student's course of study, a student wishes to change from an approved Dissertation Mentor/Supervising Professor to another Dissertation Mentor/Supervising Professor, the student must follow the process described in the **IBMS Handbook of Policies and Procedures**.

VII. Outside employment

Graduate students receiving stipends are discouraged from seeking outside employment.

VIII. Student Vacation Policy

Because of the unique relationship between a graduate student's status as a full-time student and as a half-time employee of the University of Texas, **Graduate Research Assistants do not accrue official vacation or sick leave**. The policy of the Graduate School of Biomedical Sciences is that each student will be allowed to take only official GSBS holidays. However, students of the IBMS Graduate Program may be given permission by their Dissertation Mentors/Supervising Professors to take time off for up to 7 additional days during the

year. Additional time off, including extended sick leave, personal leave, or time for international travel to visit family must be approved by a student's discipline leadership and may be allowed on a case-by-case basis, and an understanding that there will be no lapse in satisfying academic requirements.

IX. Student Travel

The costs incurred by students for travel to and expenses of scientific meetings are usually assumed by the Supervising Professor. However, numerous departmental and GSBS travel awards are available on a competitive basis. The costs which will be reimbursed are limited to those allowed by the University Rules and Regulations. A Request for Travel Authorization should be completed prior to paying any meeting registration fees.

Appendix I. Milestones Agreement
Official form available on IMPACT
Molecular Immunology & Microbiology Discipline

This document is provided for the purpose of confirming that a student and the student’s Supervising Professor have been clearly informed that certain programmatic milestones are expected prior to receiving the Ph.D. degree, and that there is an expected timeline to complete these milestones. That is, a student is expected to reach particular milestones within a specified time period in order to demonstrate satisfactory progress through the program. It is also expected that each IBMS discipline will make any revisions in this document to accommodate the needs of its program and to its discipline-specific curriculum. A student who demonstrates unsatisfactory academic progress may lose funding, be placed on academic probation, or be dismissed from the program.

In order to ensure that students remain in good academic standing and make satisfactory progress through the program, **Discipline Directors/Graduate Advisors are responsible for the following:**

- Present a clear timetable to the student for completing course requirements, exams, and other requirements.
- Ensure students have Dissertation Supervising Committee meetings each semester, and reports are filed.
- Ensure required coursework is completed each semester; provide suggestions for elective course selections.
- Provide students with advice when assembling research and qualifying exam committees.
- Provide students with advice regarding the requirements for completion of dissertation research, the written dissertation, and defense of dissertation.
- Monitor students’ progress meeting expectations of Plan of Study.
- Provide students with opportunities and information to optimize the student’s future career success.

Milestones checklist for all Ph.D. Students in the MIM Discipline

Complete laboratory rotations and select Discipline and Supervising Professor.	Year 1
Complete required IBMS and discipline core coursework.	Years 1-2
Discuss and complete <i>Student-Mentor Compact</i> and <i>Milestones Agreement</i> with Dissertation Mentor before the end of the Spring semester of Year 1.	Year 1, Spring semester
Select and seek approval for Temporary Supervising Committee (if applicable)	Year 2, Fall semester
Report research progress; evaluation reported to DEC.	Year 2, Fall semester
Complete required coursework including writing course.	(and each semester thereafter)
Complete Qualifying Examination successfully.	Year 2, Spring semester
Advance to candidacy by submitting required paperwork (immediately following QE).	Year 2, Spring semester
Complete advanced elective coursework.	Years 2-3
Select and seek approval for Dissertation Supervising Committee by DEC.	Year 3, Fall semester
Submit Dissertation Research Proposal with required paperwork for approval by Dissertation Supervising Committee, DEC, and Graduate Dean.	Year 3, Fall semester
Enroll for required 2 semesters of dissertation credit (IBMS 7099).	Year 4-5
Participate in dissertation preparation workshop prior to defense semester.	Year 5, Fall Semester
Complete dissertation research; dissertation should be written and successfully defended, approved by Dissertation Committee (timing is approximate).	Year 5, Spring Semester
Dissertation accepted by Graduate School.	Year 5, Spring Semester
File all paperwork required for degree conferral and graduation.	Year 5, Spring Semester
Submit exit survey to Associate Dean for Student Affairs.	Year 5, Spring Semester

Appendix II. Student-Mentor Compact
Official form available on IMPACT

Molecular Immunology & Microbiology Discipline

Pre-doctoral training entails both formal education in advanced scientific knowledge and theory, and research training under the supervision of one or more investigators who are qualified to fulfill the responsibilities of a mentor. A positive mentoring relationship between a pre-doctoral student and a Supervising Professor is a vital component of student preparation for a successful biomedical career.

Students who pursue a biomedical graduate degree are expected to take appropriate responsibility for their own scientific and professional development. However, Graduate Faculty who mentor students are expected to fulfill certain responsibilities such as providing academic guidance and scientific training, instruction in the responsible conduct of research and research ethics, and financial support.

This compact offers a set of guiding principles intended to promote and support the development of a positive mentoring relationship between a pre-doctoral student and his/her Supervising Professor. The purpose of completing this document is to guarantee that both students and their Supervising Professors clearly understand the exact milestones and accomplishments required to be granted the Ph.D. As mandated by the U.T. System, the individualized Milestone Agreement Form should be provided in an electronic format consistent with protections provided by the Family Educational Rights and Privacy Act (FERPA).

Prior to the end of the Spring semester of Year 1, students should have 1) discussed with their Supervising Professors each of the topics listed in this document and 2) submitted the official form to the GSBS via IMPACT website. This individualized compact should describe specific commitments and detailed processes that are understood by both the student and the Dissertation Mentor/Supervising Professor with regard to reaching the Discipline-specific milestones and accomplishing the goals of the students' Plans of Study.

With their signatures, both the Supervising Professors and the students confirm that all topics listed have been discussed and they are committed to uphold the principles agreed upon in this individualized compact. Once approved, the compact will be placed in the student's file held in the GSBS and the Discipline's administrative office, and made available to the IBMS Program Director upon request.

It is understood that this is a living document, and that responsibilities and expectations of various students and mentors may differ. Portions of this compact may be revised to reflect additional expectation agreed upon. Also, various aspects of a student's pursuit of degree can change over time and therefore this compact should be reviewed regularly (*e.g.*, once a year) and modified as needed.

Examples of questions found on the official compact agreement include:

DEFINING STUDENT AND MENTOR RESPONSIBILITIES AND EXPECTATIONS (student and mentor fill this out together)

Frequency and Methods of Communication between Supervising Professor and Student (How often will student and mentor meet? How should updates or changes in expectations and issues be communicated?)

Research/Training-Related and Professional Development of the Student (What is the student's project? Is there a specific person who will oversee training other than the PI and to what degree will the student assist with other projects in the lab? What constitutes professional development?)

Common Laboratory Responsibilities (Which tasks and duties are shared among all lab members, including the student?)

Notebooks and Data (What is the policy of the laboratory related to the storage of data and laboratory notebooks?)

Work Hours/Attendance in the Laboratory (How many hours per week is the student expected to work in the laboratory?)

Authorship Policies (What is the policy that constitutes authorship in the lab? How is the order of authors determined in a manuscript or abstract?)

Manuscripts expected for Graduation (Are there specific expectations for the number of manuscripts (published, submitted and/or in preparation), and the student's authorship position (*e.g.*, first author on these manuscripts, required for the student to graduate?)

Intellectual Policy Issues: Disclosure, Patent Rights and Publishing Research Discoveries (What is the policy for patents that come out of the student's work?)

Selection of a Thesis/Dissertation Committee (What is the process for determining the subject of the dissertation and the membership of the dissertation committee?)

Attendance of Professional and Scientific Meetings (Under which conditions can a student travel to a Regional, National, or International scientific meeting? For example, only if the student or student's work is presenting? Who covers the cost and what will be covered?)

Career and Professional Development / Job Search and Placement / Individualized Career Development Plan (What is the career choice of the student and what arrangements can be made to allow the student to participate in courses, workshops, etc. for their particular interests without compromising their research training?)

Time off for Illness or University Holidays (In light of GSBS policy that, except for official University holidays, graduate students should not expect time off, what is the laboratory policy for vacations, holidays, and personal days?)

Conflict Resolution and Student Complaint Policies (contact MIM DD and refer to Student Catalogues; GSBS website)

Additional Topics

Appendix III. Qualifying Examination
Official reporting form available on IMPACT
Molecular Immunology & Microbiology Discipline

Qualifying Examination Checklist: The QE process is to be overseen by a **5-member QE faculty committee** composed of members of the MIM Graduate Faculty. The Temporary Supervising Committee (previous section), minus the Dissertation Mentor, usually serves as the 2-member core of the exam committee; a third member will be chosen by the student to join the core of the QE committee. Generally, the student will invite one of the 3 core members to serve as the exam committee's chair. Then, the fourth and fifth members will be identified by a "random lottery" procedure to ensure diversity, objectivity and inclusiveness of faculty brought into the process. The student is allowed to reject **one** of the random draw members with no questions asked. The rejected committee member will be replaced by another faculty member also selected by random draw. No further rejections of committee members is allowed. The following is a checklist of steps to be included in the QE process:

- Student obtains approval from MIM DEC for membership of QE committee and selection of QE committee chair using **MIM Form 107** (assumes that chair and student have agreed to this arrangement).
- Student writes exam question in collaboration with chair of QE committee, revised until satisfactory to the QE committee chair. QE chair should use this as a teaching opportunity to guide student to a well-formed clearly written question.

The question must contain a justified and **testable hypothesis**, and a general description of **appropriate strategies** for testing the hypothesis. **QE committee chair ensures that MIM discipline guidelines are followed.** The question must **NOT**: 1) contain an explicit listing of specific aims; 2) be derived directly from the student's dissertation research project or from specific aims of grants of student's Supervising Professor; 3) be derived from any other previously written proposal (such as from the "writing courses" of any IBMS discipline); and 4) be previously answered by another investigator. **Limit to one single-spaced page (11-point font).**

- Once written, QE chair distributes question to full QE committee for approval (revised to their satisfaction).
- Once question is approved by QE committee (generally within 48 hours if possible), QE chair sends question to MIM Discipline Director to seek approval from Discipline Executive Committee (revised to their satisfaction).
- Once the Discipline Director notifies QE committee chair that question is DEC-approved, QE committee chair notifies student to begin writing research proposal (student is given a **MAX of 3 weeks** to write proposal).

Prior to writing, QE chair should give student advice regarding expected mechanics, format, and clarity of proposal. Proposal is limited to ten single-spaced pages (0.8 inch margins, 11-point font). At this point, there should be no further discussion with the student about the scientific content of the proposal.

- Student submits completed proposal to the QE chair as email attachment; chair distributes to QE committee (encouraging them to return responses within a week if possible). Oral defense of the proposal **should not be scheduled until approved.**

Responses from QE committee members can be one of two:

- 1) The proposal **satisfactorily describes experimentation** that is likely to successfully address the hypothesis and aims of the study. In this case, the student should contact committee members to identify an appropriate oral defense date (within 1-2 weeks of proposal approval). The student's Supervising Professor must be invited to the oral exam but is not a participant. Once a date is identified, the MIM Discipline Coordinator should be informed so that assistance with room scheduling may be provided. If remote scheduling is necessary, the QE chair should make those arrangements so as to have control of the meeting.

- 2) The proposal is **scientifically "fatally flawed"** and likely indefensible; or is seriously flawed regarding expected format or writing quality. In either case, the student should **get advice from the QE committee chair** regarding the flaw, and then given **2 weeks MAX** to revise it. **No further revisions are allowed**, and the oral defense must then be scheduled as soon as possible.
- Just prior to the QE oral defense, the QE committee chair should provide a courtesy copy of the proposal to the student's Supervising Professor (who should be advised to have no discussion with the student regarding the proposal).
- Mechanics of the QE oral defense of the research proposal:
- **Introductory presentation by student.** Prior to beginning questioning, the student is allowed 10 uninterrupted minutes to present (with slides) the main points of the proposal, including a brief review of specific aims.
 - **QE generally lasts approximately 2 hours**, giving each member of the QE committee an opportunity to question the student about the content of the research proposal; questions may be asked that concern areas outside the immediate scope of the proposal, but should be related to the research area considered in the proposal. At the end of the questioning by the QE committee, other members of the graduate faculty in attendance may ask questions of the student.
 - **At the end of the questioning period**, the student is dismissed from the room. It is customary at this time to solicit comments from non-committee graduate faculty members in attendance about the performance of the student; importantly, the student's Supervising Professor should comment on the performance of the student during the QE in comparison to performance related to the student's research/academic activities. All non-committee members are dismissed from the room prior to QE committee assessment of student performance.
 - **Evaluation of student performance** will be reported using the **official IBMS QE Reporting Form**. The report forms will be **submitted to the Discipline Coordinator** for submission to the IBMS Program Office and for action. If the **QE oral defense performance** is deemed unsatisfactory, and a second defense is allowed, the defense should be **scheduled within 60 days of the original defense date**.

Occasionally, although the student has adequately defended the proposal, the exam committee may identify a significant weakness in the student's general knowledge. It is appropriate for the committee to recommend to the Discipline Director a means to rectify the weakness.

Appendix IV. Dissertation Research Proposal

Molecular Immunology & Microbiology Discipline

Objective: The purpose of writing the Dissertation Research Proposal is to describe, in a scholarly document, the significance and strategies for performing the dissertation research. The proposal must be approved by the student's Supervising Professor, Dissertation Supervising Committee, the IBMS COGS, and finally the Dean of the GSBS.

Expectations: Writing a Dissertation Research Proposal is required of all MIM discipline IBMS Ph.D. students, and **is expected to be completed during the Fall semester of a Ph.D. student's third year in the IBMS program**. Failure to complete the QE during the specified semester may result in an Unsatisfactory (U) being posted on the student's transcript. The format of the proposal is similar in overall structure to that required by most grant agencies:

Title Page - title; name of student; graduate program and discipline, and Supervising Professor

Abstract (approx. 400 words) – summary of objectives, protocol, and significance of the proposal.

Research Plan - (variable length, but generally 5 single-spaced pages):

- 1. Specific Aims** (approximately ½ -1 page) - The overall hypothesis and objective of the proposal should be clearly stated. Provide 2-4 testable hypotheses (*e.g.*, Specific Aims).
- 2. Background and Preliminary Data** (approximately 1-1½ page) - The work of others that led to the overall hypothesis should be described, citing the most relevant references. A clear rationale should be provided for the importance of solving the research problem, along with its potential impact on current perceptions in the field. Including a small amount of preliminary data (one or two key experiments) is recommended in order to support the hypothesis and the feasibility of the project.
- 3. Experimental Design** (remaining pages) - Each Specific Aim that is outlined in the first section (above), should have a parallel section in the Experimental Design section. Describe experimental strategies designed to accomplish each aim, and methods of analysis and validation to be employed (*i.e.*, statistical methods). Regarding experimental methods, sufficient detail should be provided to allow the reader the opportunity to critically evaluate the experimental approach chosen. However, lengthy descriptions of methods common to the field need not be included.
- 4. References** - Citations should be numbered consecutively as they are cited in the text, and full references should be arranged in numerical order. Use accepted formats; format consistently throughout the text. Use only standard accepted abbreviations for the names of journals.