GRADUATE PROGRAM IN MOLECULAR AND CELLULAR PATHOLOGY

Policies and Guidelines

I. **Admission to Program**

A. Submission of completed application form.

1. Application form.
2. Letters of reference (three).
3. Transcripts from all colleges and universities attended.
4. Letter/Essay indicating career goals.
5. Results of Graduate Record Examination (GRE). This can be exempted only in cases where other records indicate outstanding achievement.
6. Test of English as a Foreign Language (TOEFL). Required only for applicants whose native language is not English.

B. Application review and recommendation for interview. Applications are reviewed by the Molecular and Cellular Pathology (MCP) Graduate Program Standing Committee and will recommend to the Program Director, who should be invited for an interview. The requirement for an interview can be waived only under exceptional circumstances, such as an otherwise outstanding student living in a foreign country. In these instances however, a phone interview with select members of the MCP Graduate Program Steering Committee is usually held in lieu of a physical visit to UAB.

C. Admission. Following the interview, which will include meetings with the current Graduate Students, the MCP Graduate Program Standing Committee and additional Pathology Faculty members, recommendations will be made to the Program Director which applicants should be offered admission to the Graduate Program. The Program Director of the Molecular and Cellular Pathology Graduate Committee will recommend to the Director of the Division of Molecular and Cellular Pathology who will recommend to the Chair, Department of Pathology who should be offered admission to the Graduate Program.

D. Recommendation to the Graduate School. If a student is recommended for admission to the Graduate Program, a letter will be sent to the UAB Dean of the Graduate School and a letter will be sent to the student offering admission to the Graduate Program from the Director of the Graduate Program.

E. Assurance of financial arrangements. A student must have full tuition and stipend support for the duration of study. A student will not be allowed to hold any form of employment outside the advisor's or other committee member's research laboratory. Exceptions may be made where such outside work is clearly beneficial to the overall training of the student and requires unanimous agreement between the mentor, MCP Graduate Program Director, and the Dean of the Graduate School. The commitment to undertake graduate study must be a **full time** effort. Financial sources include:

1. NIH training grant support
2. Other institutional grant support
3. Institutional fellowships or assistantships
4. Outside agency fellowships: NSF, WHO, Kellogg, etc.
5. Foreign government
6. Other private resources

II. **Program Outline:** The typical graduate student takes 4-5 years to complete the requirements for a Ph.D. degree. In your first year, much of your time will be devoted to coursework; however, you will also gain valuable laboratory research experience in your research rotations. All first-year students enrolls in the Integrative Biomedical Science (IBS) series of three courses that cover biochemistry, prokaryotic and eukaryotic molecular biology, cell biology, physiology and the genetics of disease. You will also take Introduction to Pathology (PAT 703), a seminar series in which students become acquainted with graduate program faculty members and their research interests, PAT 704- Pathology Research Data Analysis and Presentation, a scientific presentation course designed to provide the student with the necessary oral skills for scientific presentation following a scientific meeting format and PAT 791- Advances in Molecular and Cellular Pathology Seminar Series (PAT 791) in which faculty from our department, other UAB faculty, and faculty from other institutions discuss their research.

Laboratory (research) rotations are an integral component of your first year; you will spend 10-12 weeks in three different labs to learn, firsthand, various techniques and areas of research, and how to function in a lab. *At the end of each laboratory rotation, you will give an oral presentation of your rotation project in PAT 704.* **A fourth rotation is available if required. You must discuss your selected rotations with the graduate program director before starting laboratory work.** By the summer between the first and second years, you most likely will have chosen a mentor and lab in which to do your thesis project.

In your second year you will take Journal Clubs of your choosing to broaden your knowledge outside of the area of your thesis work and to develop your ability to critically evaluate the scientific literature. You will spend more time in the lab developing your thesis project. Course work will continue but with fewer credit hours due to increased emphasis on laboratory research. Biology of Disease (PAT 700, fall semester), covers basic concepts of disease such as cell injury and death, inflammation and response to injury, and neoplasia. Molecular Basis of Disease (PAT 701, spring semester) introduces students to selected disease areas and applies principles of molecular biology, cell biology, and biochemistry to our understanding of the causes of disease, the progression of the disease, and possible therapeutic interventions. You will also continue to enroll in PAT 704 and PAT 791.

At the end of the second year, in consultation with your mentor, you will select a committee of 5-6 faculty members who will serve as guides and readers of your thesis. Late in your third year, you will prepare for the Preliminary Exam, which consists of writing an NIH-style grant on your proposed thesis work and defending it orally before your thesis committee.

The following years are spent intensively researching your thesis project. During this time, you will learn a variety of specialized laboratory techniques and how to interpret and evaluate data. As you mature intellectually, you will gain confidence discussing the literature in your field, presenting your work at scientific meetings, and in publishing peer-reviewed articles. The formal dissertation and its public defense before your thesis committee and your colleagues represent the culmination of your graduate career in Molecular and Cellular Pathology.

Table 1- Template for Ph.D. training in the Graduate Program in Molecular and Cellular Pathology for Ph.D. Students Admitted through the Department of Pathology

	YEAR ONE (credit hours in parentheses)
Fall Semester	IBS 700, Biological Chemistry & Cellular Physiology (10) PAT 730, Lab Rotation #1 (1-5) PAT 703, Introduction to Pathology Research (1) PAT 704, Pathology Research Data Analysis and Presentation (1) PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Spring Semester	IBS 701, Pathophysiology & Pharmacology of Disease (8) PAT 730, Lab Rotation #2 (1-5) PAT 752, Lab Rotation #3 (1-5) PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Summer Semester	IBS 702, Molecular Basis of Genetic Disease and Functional Genomics (5) PAT 798, Pre-dissertation Research (1-8) **By mid-August of the First Year:** **STUDENT SELECTS DISSERTATION ADVISOR (MENTOR)**
	YEAR TWO
Fall Semester	PAT 700, Biology of Disease (3) PAT 704, Pathology Research Data Analysis and Presentation (1) PAT 798, Pre-dissertation Research (1-15) Student Chosen Journal Club (1-3) Electives PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Spring Semester	PAT 701, Molecular Basis of Disease (3) PAT 798, Pre-dissertation Research (1-15) Student Chosen Journal Club (1-3) Electives PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Summer Semester	PAT 798, Pre-dissertation Research (1-10) **Spring/Summer/Fall of Second Year: STUDENT HAS INTRODUCTORY (FIRST) DISSERTATION COMMITTEE MEETING**
	YEAR THREE* **By March 31st of Third Year: STUDENT PASSES QUALIFYING EXAM (ADMISSION TO CANDIDACY)**
Fall Semester	PAT 798, Pre-dissertation Research (1-15) PAT 704, Pathology Research Data Analysis and Presentation (1) Student Chosen Journal Club (1-3) PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Spring Semester	PAT 798, Pre-dissertation Research (1-15) Student Chosen Journal Club (1-3) PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Summer Semester	PAT 799, Dissertation Research (1-10)

	YEAR FOUR*
Fall Semester	PAT 799, Dissertation Research (1-15) PAT 704, Pathology Research Data Analysis and Presentation (1) Student Chosen Journal Club (1-3) Journal Club PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Spring Semester	PAT 799, Dissertation Research (1-15) Student Chosen Journal Club (1-3) Journal Club PAT 791, Seminar - Advances in Molecular and Cellular Pathology (1)
Summer Semester	PAT 799, Dissertation Research (1-10)
	Continue with the Year Four Model Until **STUDENT WRITES AND DEFENDS DISSERTATION**

*** Students must take a short course: GRD717, Principles of Scientific Integrity (3), usually in year three or four. As an elective, many students take a Statistics course, typically in year three or four.**

Under the semester system, a full-time graduate student should register for a total of 15 credit hours in the fall semester, 15 credit hours in the spring semester, and 10 credit hours in the summer semester, for an academic year total of 40 credit hours.

III. **Laboratory Rotations**. Students shall perform no less than three 10-12 week research rotations in the first year of graduate work. However, the 1st rotation cannot start until after the 3-week Introduction to Pathology Research (PAT 703) in the fall term. The three rotations shall be conducted in three different laboratories of the Graduate Faculty. Approval for such rotations must be given prior to their starting by the Director of the Graduate Program.

The approximate timing of the rotations should be:

Intro to Pathology Research (PAT 703) 3rd week of August to mid-September

2008-2009 Lab Rotation Schedule

Rotation 1: September 15- December 5
Rotation 2: January 5- March 20
Rotation 3: March 30- June 19
Permanent Lab Start Date: July 6

A fourth rotation is available if required, and must be approved by the Director of the Graduate Program.

An oral presentation (10-15 minutes), to be given by the student, covering the research experience of the rotation is required at the end of each rotation. The student will also prepare an, abstract outlining the aims and results of the research. It is recognized that a limited amount can be achieved in this short period of time. The rotations are graded and the oral presentation should be incorporated into the final grade. The oral presentations will be given during Pathology 704, a class designed to prepare students in research presentation, and will be reviewed by the program director.

Attendance:

Lab Rotations receive a letter grade and should be treated as a course. **A large percentage of the**

grade for lab rotations is based upon attendance in addition to performance. Students are required and expected to be present in laboratory, Monday-Friday, 10:30 a.m.-5:00 p.m. If you plan to be absent from the laboratory it is necessary to notify your mentor and graduate program coordinator.

Evaluations:
Both the student and the rotation mentor will complete rotation evaluation questionnaires at the end of each laboratory rotation. Evaluations completed by the student will be kept anonymous.

IV. **Appointment of Dissertation Advisory Committee (Thesis Committee).**

A. Table 1 illustrates a typical training structure and time line for Ph.D. students matriculating directly through the department of Pathology or Department of Genomics and Pathobiology. Exceptions to this may only be made in consultation with the Director of the Graduate Program. A student in the combined MD – Ph.D. (MSTP) program, DMD – PhD, or a student that matriculates and already possesses a MD, DMD, or DVM degree, will follow a training structure designed with their background and goals in mind in consultation with the Director of the Graduate Program.

If necessary, a student can have a provisional advisor assigned on admission to the program. Two or more additional faculty may be appointed within 6 months. The initial committee must include at least one member of the Molecular and Cellular Pathology Program Graduate Faculty.

The student's permanent advisor (mentor) should be chosen by the Summer Semester of the first year. It is understood that the role of the mentor carries numerous responsibilities, including the many facets of graduate student education and financial support for the student's stipend, insurance and student travel to meetings to present their research. The mentor must become familiar with and abide by the Policies and Guidelines of the Graduate Program, and encourage the student to progress rapidly and meet all appropriate deadlines detailed in the Policies and Guidelines. The mentor should also encourage the student to participate in the workings of the Graduate Program, including, but not limited to meetings with Visiting Scientists and helping with the interview of future graduate student applicants. Although many of these functions are not directly in support of the graduate student's research, they are instrumental in the student learning the many functions of a department and a graduate program, and they will enrich the student's educational experience. In instances of multidisciplinary research projects (e.g. basic science with translational clinical projects), co-mentors may be appointed or encouraged.

B. Each year a Progress Report will be required from the mentor of each Graduate Student using the Graduate Student Annual Review Form briefly outlining:

1. The academic (coursework) progress of the student.
2. The research academic progress of the student.
3. Publications, presentations, scholarships and awards won by the student during in the previous year.
4. Dates of the Dissertation Advisory Committee meetings in the previous year.
5. A brief plan for the upcoming year.

Any problems a student may have had or is presently having needs to be discussed in the Annual Review, as well as any potential remedies which may include a series of guideposts that the student should attain for their continuation in the mentor's laboratory. These requirements should be discussed with the Director of the Graduate Program. The Director of the Graduate Program will keep the Molecular and Cellular Pathology Graduate Committee and the Director, Division of Molecular and Cellular Pathology apprised of all progress. To circumvent conflicts of interest, students who select the Director of the Graduate Program as their Mentor will have their yearly progress reviewed by the Director, Division of Molecular and Cellular Pathology.

C. PhD Dissertation Advisory Committee. All students will have a permanent dissertation advisory committee that must be appointed prior to initiating the procedures for admission to candidacy.

1. All committee members must be members of the UAB Graduate Faculty. Ad hoc appointments may be made as approved by the Director of the Graduate Program in Molecular and Cellular Pathology, the Director, Division of Molecular and Cellular Pathology or the Chairman of the Department of Pathology.

2. A Ph.D. Dissertation Committee (Dissertation Advisory Committee) requires at least 5 members (6 are recommended) including advisor. It is suggested that at least two should have their primary appointment within the Department of Pathology but this is flexible. However, at least two must have their primary appointment outside the Department of Pathology.

3. The mentor or graduate student must notify the Graduate Program Director of the potential members of the committee prior to formally approaching these individuals and the Director must approve the committee. Once the faculty members agree to serve on the committee, the mentor or graduate student should relay this information to the Program Director who will then notify the Dean of the Graduate School of the proposed Dissertation Advisory Committee. The Graduate School will send formal notification to approved committee members. It is the students and mentors responsibility to ensure that these necessary administrative procedures are followed.

V. **Selection of Supplementary Coursework (Electives), Additional Laboratory Experience and other Related Training**.

A. The student's Dissertation Advisory Committee will evaluate competence of the student to conduct scientific study that may include training in some or all of the following areas:

Cell biology
Molecular biology
Biochemistry
Basic disease mechanisms (General Pathology)
Application of biostatistics
Experimental design

In this regard, the requirement of additional coursework beyond the core requirements of the MCP Graduate Program should be determined by the entire Dissertation Advisory Committee, in addition to the advisor and the student. Practical considerations may require that advisor (or Graduate Program Director) make the initial course selections. Committee approval should be made by the beginning of the third year.

B. Research Seminars. Each student must successfully complete (register for and attend) the Molecular and Cellular Pathology Research Seminar (PAT 791 or equivalent) and PAT 704 for the entire tenure of graduate school excluding the semester in which they will defend their thesis (both Ph.D. and M.Sc. program).

C. Journal Clubs. A total of 4 semesters of journal club are required except in extraordinary circumstances and by prior approval by the Director of the Graduate Program. The student must present in the journal club to have it count towards the required number. Two (2) different journal clubs are required within the 4 semesters. The journal clubs requirement is intended to increase exposure to different areas, approaches and techniques of biomedical research.

VI. **Dissertation Advisory Committee (Thesis Committee) Meetings**

A. Frequency: Must be scheduled every six months. These meetings do not need to be longer than an hour, but it is recommended that at least 2 hours be allotted for these meetings and they should be scheduled well in advance. At least three members of the committee must be present at updated meetings. A written summary of the meeting must be completed and sent to the program director within one week of the meeting being held.

B. Responsibility to call meetings: This is the responsibility of the advisor and the student. The dates of committee meetings will be reported on the Graduate Student Annual Review Form and will be reviewed by the Program Director. Reminders will be sent to advisors and students if they have not had committee meetings approximately every six (6) months. Failure to hold a committee meeting within one year of the previous one, and after sending two (2) notices of such failure, will be cause for review of the student by the Molecular and Cellular Pathology Graduate Committee. Continued lack of progress can be grounds for dismissal from the program.

C. Format: The student should present a brief statement of his progress since the last meeting and an outline of his proposed activities for the next six to twelve (6-12) months. Handouts or prior electronic (PowerPoint files) are encouraged. Specific items to be reviewed should include:

1. Student CV
2. Completed coursework (provide transcripts).
3. Additional coursework required/planned.
4. Research progress.
   a. Literature review preparation.
   b. Research techniques to be or being mastered.
   c. Experimental plan.
   d. Pilot studies performed.
   e. Experimental results obtained.
   f. Problems encountered.

D. Report. The graduate student's Dissertation Advisory Committee should approve the student's proposed study plan, modified as deemed necessary. The student's mentor should submit a report on each meeting to the Graduate Program Director using the Graduate Student Advisory Committee Report form, with attachments as necessary and listing who was present. If there are any deficiencies, they should be carefully documented and discussed in detail with the student by the student's mentor and by the Director of the Graduate Program. The members of the Dissertation Advisory Committee should be sent copies of this report. Students who have selected the Director of the Graduate Program as their Mentor will send a copy of this report to the Director, Division of Molecular and Cellular Pathology.

VII. **Admission to Candidacy.** The Graduate School requires that students must be admitted to candidacy for the Ph.D. degree at least two semesters prior to graduation, and after completion of required coursework and introductory research training. The Graduate School requires three items: a) completion of approved experimental plan; b) satisfactory completion of a comprehensive examination by the committee. The experimental plan and comprehensive examination together comprise the qualifying examination for admission to candidacy.

Students in the Graduate Program in Molecular and Cellular Pathology will be expected to pass the Admission to Candidacy Qualifying Examination by March 31st of their third year. Normally, this will be at least 15 months from the time that the student selects a major dissertation professor. The Candidacy

Qualifying Examination should not be the first meeting of the Dissertation Advisory Committee. Thus, the first meeting of the Dissertation Advisory Committee should take place in the Spring/Summer of the second year (preferable) or, at the latest, early fall of the third year.

Inability to schedule a Candidacy Qualifying Examination should be discussed with the Program Director and a student can apply for an extension in extraordinary circumstances. This request for an extension should take the form of a letter from the mentor to the Graduate Program Director requesting the extension and giving the reasons why this is necessary and a proposed date for the Qualifying Examination. *Students not taking, or failing to pass the Qualifying Examination by March 31st of their third year will be reviewed by the Molecular and Cellular Pathology Graduate Committee.* Following review by the Molecular and Cellular Pathology Graduate Committee and the Program Director, the Program Director will recommend a course of action which will be reported to the Director of the Division of Molecular and Cellular Pathology who will inform the Chair, Department of Pathology of the Committee's recommendation. Failure to schedule the Qualifying Examination in a timely manner or failing to pass the Qualifying Examination can be grounds for dismissal from the program.

A. The qualifying examination will be composed of two separate parts: a written examination and an oral examination. For the written component, the student shall prepare a written research proposal relating to and dependent upon his initial dissertation proposal. The proposal should be written by the student based on his knowledge of the research area, discussions with his advisor, and preliminary data obtained indicating the feasibility of the project. Prior to the undertaking of preparing the proposal, however, the student is encouraged to submit a short abstract of the proposal to the dissertation advisory committee for approval. The written proposal itself should be prepared along the guidelines of a standard National Institutes of Health grant proposal for an R21. The proposal should include:

   1. Specific aims with an **overall hypothesis** and specific questions to be addressed.
   2. An extensive, up-to-date literature background to the project and statement(s) of significance and rationale.
   3. Whenever preliminary data exists indicating the feasibility of the proposal. It is important to note that extensive preliminary data is neither required nor expected for this examination. Data from other members of the research group can be used in the proposal to show feasibility but must be clearly labeled as such.
   4. Contemplated methods of approach with rationale for the experimental design, specific methods to be employed, potential problems in the design or methodology, and a timetable.

   Although no minimum page number is dictated, it is expected that the Background be well researched, any Preliminary Data well presented and explained, and the Significance and Specific Aims well described in a manner approximating an NIH R21 application that have a page limit of 15 pages.

B. The student shall submit the completed proposal to his/her dissertation advisory committee at least two weeks prior to the oral examination which shall take the following form: the student will make a short presentation (20-30 minutes) that includes part of each of the above listed sections (# 1-4 of the proposal). The Dissertation Advisory Committee shall ask questions relating to the oral presentation and the written proposal. Each committee member shall be given the opportunity to examine the student one at a time in order to assess the student's overall knowledge of the area on which the proposal is based, ability to state hypotheses and to use his/her knowledge to test hypotheses. Questions should also be broad-based in nature that may or may not relate to the written research proposal. Open-ended questions will be encouraged to determine the ability of the student to grasp concepts from different disciplines and areas.

C. It will be recognized by the committee that research proposals of any form, especially those written by students based on their initial work in the laboratory, may be extensively modified during the course of the conduct of the research due to new findings, shifts in emphasis, etc.

Therefore, completion of the specific aims as written in the proposal will not be required for completion of the dissertation project itself, but rather the specific aims will be evaluated on the feasibility of the project as put forth in the student's proposal.

D. One unusual aspect of the Qualifying Exam is that unlike a normal Dissertation Advisory Committee meeting, the mentor is asked to refrain from contributing to the discussion unless specifically addressed by one of the other members of the Dissertation Advisory Committee. This is to allow the student, during their Qualifying Exam, to be freely questioned by the committee members. So that the Qualifying Exam is run smoothly, a chair of the Qualifying Exam needs to be selected. This chair for this particular meeting can be selected by the mentor, the student or the Director of the Graduate Program and will normally be one of the other Dissertation Advisory Committee members. On the Annual Report Form it should be listed by the mentor who was selected as chair of the Qualifying Exam.

E. Following the oral examination, there will be a discussion as to whether the student has passed the written and oral components of the preliminary examination. The student may pass both components, only one component, or neither component. Should the student fail one or both components of the preliminary examination, one make-up exam comprised of one or both components will be allowed as determined by the student's Dissertation Advisory Committee in consultation with the Graduate Program Director. Upon satisfactory completion of the qualifying examination, the student will be admitted to candidacy for the Ph.D. in Molecular and Cellular Pathology. It is the student's responsibility to complete necessary documentation in which will require signatures from committee members and ensure the necessary processing.

F. In some instances, a Dissertation Advisory Committee may require in addition to the written proposal format, a written examination based on questions relating to the student's discipline or area of interest. This will be left to the discretion of the student's Dissertation Advisory Committee in consultation with the Graduate Program Director.

VIII. **Research.** An intensive period of original research will be performed by the student, the length of which will be decided by the Dissertation Advisory Committee. During this time the student will carry out the studies presented in the experimental plan, as presented at the Dissertation Advisory Committee meetings. Prior to the Qualifying Exam the student will register for PAT 798, Non-Dissertation Research, for the number of credit hours commensurate with their other responsibilities within a given term. Following the Qualifying Exam the student will register for PAT 799, Dissertation Research. A minimum of 2 full semesters of PAT 799 (Dissertation Research) must be completed prior to graduation. Both PAT 798 and PAT 799 will be graded as pass / fail courses.

IX. **Continuation in the Program**. Students in the Ph.D. program must register as graduate students for a minimum of 15 hours per fall and spring semesters and 10 hours per summer semester, with a minimum of 40 credit hours per year. Students participating in off campus research may petition the Director to register for fewer hours. A "B" average must be maintained in graded courses and a "Pass" grade in all others. If a student's grade point average slips below a "B", they are placed on probation and have 2 terms to raise the average to a "B" or better. Students that receive a grade of 'C' in a required course must retake that course the following year.

Satisfactory progress must be maintained, as determined by the Dissertation Advisory Committee. Any problems a student may have had or is presently having needs to be discussed in the Annual Review as well as any potential remedies which may include a series of guideposts that the student should attain for their continuation in the mentor's laboratory. These requirements should be discussed with the Director of the Graduate Program. A student who receives two (2) "C's or one "F" may be dismissed from the Molecular and Cellular Pathology Graduate Program. Any action requiring dismissal will be decided by majority vote of the Molecular and Cellular Pathology Graduate Committee. The Director of

the Graduate Program will keep the Director, Division of Molecular and Cellular Pathology apprised of all recommendations.

X. **Presentation and Defense of Dissertation.** The minimum requirements for presentation of a thesis further to the final defense (either public or private) are:

A. A complete thesis prepared according to the graduate school guidelines. Drafts or partially completed documents are not acceptable. The MCP program accepts a thesis in the chapter format in which distinct areas of the project are described and can be selected from publications or unpublished work. Alternatively, a thesis may be composed of papers intended for publication or published. In either case an introduction describing the scope and nature of the work and a summary chapter describing future directions must be included.

B. The thesis must be presented in its complete form, in either electronic or hard copy according to the preference of the committee member, a minimum of two weeks prior to the examination.

C. At the time of the private defense the student must have a minimum of one first author research paper accepted for publication in a scientific peer reviewed journal. It is important to note this is the minimum requirement and the committee has discretion in determining whether the thesis constitutes a sufficient body of work to qualify the candidate for the final defense. It is anticipated that the typical student will have 3-4 scientific articles published arising from their studies towards their degree. It is recognized that this is highly dependent on the subject area and again the committee is charged to assess the performance of the student in all aspects of their research.

D. Placement of notice of the Public Defense in the UAB Reporter the week before the examination (this requires a minimum of two weeks notice). The MCP graduate program will arrange for this once the information is given to them by the student. It is the student's responsibility to provide this information in a timely manner. The student will also be required to prepare a short abstract and biography for departmental distribution.

E. The scheduling of the public defense should be coordinated with the Chair's Office and Graduate Program Director's schedule. The public defense is the official date accepted by the Dean of the Graduate School for graduation purposes.

To fulfill the requirements for the final defense there shall be a public presentation of the results of the research study followed by an opportunity for members of the Dissertation Advisory Committee, the students of the MCP graduate program and Pathology Department Graduate School Faculty to ask questions. All students will also have a private defense in which they may be examined on any aspect of the thesis or related areas of science as deemed appropriate by the Dissertation Advisory Committee. The defense can be accomplished on a single day, with the public defense (public presentation at a seminar advertised throughout UAB) immediately followed by the private defense (with the Dissertation Advisory Committee). Alternatively, the private defense can be performed prior to the public defense.

At the private defense the mentor must appoint a member of the committee as a temporary chair and should not contribute to the discussion unless specifically addressed by one of the other members of the Dissertation Advisory Committee. The student is advised to schedule at least two hours for the private defense.

XI. **Graduation.** Upon completion of all requirements and submission of all required documents (including approval of the dissertation by the Dissertation Advisory Committee) to the graduate school, it will be recommended to the Dean of the Graduate School that the student has fulfilled the requirements

for the degree of Doctorate of Philosophy. Once approved by the Dean of the Graduate School, the student will be awarded the degree.

XII. **Grievances and Other Problems**. Problems can arise during a student's training and at an early stage these generally prove easy to resolve. You are encouraged to bring your concerns initially to your mentor. If for whatever reason you wish to discuss your issues with another faculty member in confidence you should feel free to do so. Please note this is not the role of the program coordinator. As a student you have recourse to a number of faculty, in addition to your mentor, including other members of your committee, the program director, Division Director for the Molecular and Cellular Pathology and also the Chair of the Department. While other students may provide a useful sounding board it is unlikely they can resolve major issues or understand the best way to approach a problem that may arise. The program is committed to your successful graduate education and is fully experienced in resolving most of the issues that confront students during their training.

A. Student. If a student is dissatisfied with conditions of study or other aspects of the program, a meeting should first be arranged with the graduate program director. In consultation, with the student a course of action will be determined. The program director may choose to involve the Dissertation Advisory Committee. If satisfactory resolution is not provided, the student should then meet with the Program Director, who may call a meeting of the Molecular and Cellular Pathology Graduate Committee.

B. Transfer from one laboratory to another after rotations are completed is permissible but must be discussed with the Program Director prior to approaching any other faculty for potential support. Approval from the Graduate Program Committee will be required and this may involve the student and the mentor discussing the proposed change in person with committee. Approval will only be granted if the committee is convinced that this is in the best interests of the student. Transfer after passing and taking the Qualifying Examination is not encouraged and will only be granted in exceptional circumstances.

C. Students who transfer from another program (either within UAB or from another institution) should be in good standing having passed all courses at the required level. If this is not the case transfer requires the approval of the Graduate Program Committee in addition to the Program Director and may be conditional on satisfactory performance.

D. Faculty. Dissatisfaction with progress of a student should be discussed with the Program Director who will present the action decided by the student's dissertation advisory committee to the Molecular and Cellular Pathology Graduate Committee and the Director, Division of Molecular and Cellular Pathology for approval. Once a student has selected a laboratory for dissertation research the mentor must gain the input from the thesis committee in discussion of deficiencies of the student's performance in research or course work.

XIII. **Financial Support after Final Dissertation.** Once a student has completed the final defense and has been conferred by the University, they can remain in student status for up to one semester with financial support. Remaining in student status beyond this time requires the agreement of both the mentor and the student in addition to approval by the Program Director.

XIV. **Vacation and Leave.** In general, graduate assistants are expected to be available in the periods between academic terms. Graduate assistants are entitled to the following short-term leaves:

A. A minimum of 15 calendar days paid leave of absence (vacation) per calendar year
B. Three calendar days paid sick leave of absence per calendar year
C. Parental leave of absence (with pay) of 30 consecutive days per calendar year upon the birth or

adoption of a child. Either or both parents are eligible for parental leave.

These leaves (vacation, sick, parental) do not accrue. All leaves require notification of and approval by the mentor or Graduate Program Director and may be extended, if necessary, with the permission of the Graduate Program Director. Program policies regarding leaves of absence must apply equitably to all full time students in good standing in the program. With the agreement of mentor and Graduate Program Director, extended, unpaid, non-emergency absences from campus for periods up to a month may be approved. Extended absences (without pay) for non-academic purposes should be limited. Students should consult the University Graduate School Policies and Procedures concerning leaves of absence. In emergencies, graduate assistants should inform their mentors or program directors as soon as possible about the need for a leave of absence.

XV. **MCP Graduate Program Directorship and Committees:**

A. MCP Graduate Program Directorship:

The MCP Graduate Program Director is appointed by the Chairperson of Pathology and serves a 3 year term. It is the responsibility of the Graduate Program Director to oversee and manage graduate program issues, with the advisement of the MCP Graduate Program Standing Committee. The MCP Graduate Program Director is to meet with the MCP graduate student body on a quarterly basis, to inform the students of any programmatic issues or changes, and, to define student body concerns, issues or suggestions relating to the program.

At the commencement of the director's third year of service, an associate director is appointed by the Departmental chair. The associate director will become the new director and will work with the current director during their final year of service, enabling a smooth transition period between MCP graduate program directors.

B. MCP Graduate Program Standing Committee:

The MCP Graduate Program Standing Committee oversees programmatic issues and serves as a policy advisory group for the MCP graduate program director. The committee meets on a quarterly basis. Additional meetings are called when deemed necessary by the MCP Graduate Program Director. This body also serves as the admissions committee for the program.

The MCP Graduate Program Standing Committee consists of nine members from the Department of Pathology. The MCP Graduate Program Director and MCP Graduate Program Associate Director occupy two of these positions and there are no specified terms for the Director or Associate Director. Members are appointed to a 3 year-term. Three members rotate off the committee and three new members are appointed each year.

Candidates for committee membership are typically nominated by the Director of the MCP Graduate Program; however, the Pathology Division Directors may also nominate candidates for consideration. Faculty desiring to serve on the MCP Graduate Program Standing Committee can self nominate through their Division Director. Nominations are presented to the Director of the MCP Graduate Program, who will present the application to the standing committee for consideration.

To be considered for membership, candidates must be tenure-track faculty with acceptable experience in medical research and training of graduate students, as determined by the MCP standing committee. All candidates must be approved for membership by majority vote of the current MCP Standing Committee membership.

XVI. **Masters Degree**

A Masters Degree in Basic Medical Science (MSBMS) can be awarded under unusual circumstances to students who have successfully completed all of the course work requirements (first year and advanced courses) and the qualifying examination. Please refer to specific guidelines set by the UAB Graduate School for awarding the MSBMS. Specific requirements (defending a Masters thesis and/or first author publication) for completing the MSBMS will be determined on a case by case basis by the students mentor, students thesis committee if one has been formed, and the Department of Pathology Graduate Program Director.