

# Molecular Carcinogenesis Student Handbook

<http://sciencepark.mdanderson.org/>

**August 2010**

The information in this handbook is subject to change and corrections.  
Please visit the Molecular Carcinogenesis and GSBS websites  
for the most current information and forms.

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# Message from the Director

Dear Molecular Carcinogenesis Program Graduate Students,

This student handbook, together with the GSBS handbook and websites, will provide you with valuable information on the MC program, including its policies and procedures, courses, the candidacy exam, resources, events and activities.

The Molecular Carcinogenesis Graduate Program began in 1999 as a multidisciplinary program focused on graduate training in the area of cancer cause and prevention. There are many success stories among the graduate students that have matriculated through the MC program. Former students have gone on to do postdoctoral fellowships at prestigious institutions, become faculty members, leaders in the biotech industry, and even a patent lawyer. We expect that participation and completion of the program requirements will lead not only to your PhD degree but also to a successful career in whatever area of biomedical sciences and/or education you choose.

To be successful in the MC graduate program you should be diligent in the classroom and work hard on your research project. Actively participate in the journal club and do additional reading of the scientific literature to learn critical thinking and analysis skills. Practice your oral presentation skills at the student seminar series, the MC Program retreat and at outside scientific meetings. Your written communication skills will be honed by writing abstracts, manuscripts, fellowship applications and the candidacy exam. Also take the opportunity to interact with other students, postdoctoral fellows and faculty members to begin to establish your scientific network.

Welcome to the MC Graduate Program. The GSBS is an outstanding school where students are closely monitored to ensure they are progressing in a timely manner. The Science Park is a unique and beautiful environment in which to receive your graduate training. And the Department of Carcinogenesis faculty, trainees and support staff create a friendly and family-like atmosphere in which to work. I hope you enjoy your time here and good luck with your discoveries.

Sincerely,

David G. Johnson, PhD  
MC Program Director

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Molecular Carcinogenesis

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**GSBS Website:** <http://www.uthouston.edu/gsbs>

**GSBS Forms:** <http://www.uthouston.edu/gsbs/current-students/academics/forms/index.htm>

**GSBS Room Reservations:** <http://www.uthouston.edu/gsbs/current-students/information-technology/classroom/index.htm>

**Requirements for Ph.D. Degree:** <http://www.uthouston.edu/gsbs/current-students/academics/policies/policies/phd-requirements.htm>

# Joining Molecular Carcinogenesis

## Section Topics

- Who Can Join
  - When to Join
  - How to Join
- 

## Who Can Join

There are four criteria, all of which need to be met, for joining the Molecular Carcinogenesis Program.

- You are a Ph.D. or Masters student
- The advisor you select to supervise your dissertation research is a Molecular Carcinogenesis faculty member.
- The Director of the Molecular Carcinogenesis Program approves your request to join.
- Your advisor approves your request to join the program.

## When To Join

Students generally join the Molecular Carcinogenesis Program toward the end of their first year in graduate school, after they have completed their last rotation and joined a Molecular Carcinogenesis lab.

## How To Join

When you decide to join Molecular Carcinogenesis, or even if you're not sure and have some questions, please meet with the Program Coordinator. She will tell you what you need to do, give you important program information, and tell you about other program activities. To join, you will need to fill out this form, which she will give you.

1. **“Notification of Ph.D. Program Affiliation”** (a GSBS form)

This form is also on the “Forms” page of the GSBS website under “Other Forms” at [http://gsbs.uth.tmc.edu/current\\_forms.htm](http://gsbs.uth.tmc.edu/current_forms.htm).

# Program Timeline and Requirements

## Section Topics

- Year-by-Year Timeline
  - General Curriculum Requirements
  - Molecular Carcinogenesis Program Required Courses
  - Course Substitutions
  - Waiving a Required Course
  - Elective Courses
  - First Year Lab Rotations
  - Sample Coursework Timeline
  - Public Presentation Requirements
  - Committee Meeting Requirements
  - Candidacy Exam
  - Publication Requirements
  - Dissertation and Thesis
- 

## Overview

Requirements for the Ph.D. degree include a broad knowledge of biochemistry, molecular biology, tumor biology, physiology, and genetics. These are acquired through coursework, three laboratory rotations during the first year, a candidacy exam, a dissertation research project and participation in research seminars and journal clubs.

## Year-by-Year Timeline

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- Yr 1:** Take required and elective courses, and complete your three lab rotations. Towards the end of your third tutorial, select your advisor, join the Molecular Carcinogenesis Program, begin your thesis project, and form your Advisory Committee.
- Yr 2:** Continue your dissertation research and complete your coursework. Have your first Advisory Committee meeting in the fall and petition for candidacy in the late spring or summer.
- Yr 3:** Take your candidacy exam in the fall semester (or summer if you matriculated in the summer term), continue your dissertation research, and, upon advancing to candidacy, choose your Supervisory Committee. Meet with your Supervisory Committee in the spring.
- Yr 4+:** Continue your dissertation research and meet with your Supervisory Committee at least once every six months until you write and defend your dissertation. The program expects that most students will finish in six years or less.
-



1. It is of clear benefit to the student's education.
2. The new course fulfills the same GSBS area requirement as the original course (i.e. a "systems" course must be substituted by another "systems" course).
3. Approval from the student's advisor, the Molecular Carcinogenesis Program Director and the GSBS Assistant Dean for Science Park.
4. Substitutions of GSBS course requirements must be among the alternate courses previously approved by the GSBS Academic Standards Committee.

## Waiving a Required Course

Students wishing to waive a Molecular Carcinogenesis required course may do so with the approval of their advisor, the Program Director and the course director, and only if the course director believes a course taken previously is equivalent to the Molecular Carcinogenesis course. If the student wishes to waive the GSBS area requirement that this course would have satisfied, they must also get approval from Dr. Knutson at GSBS to waive the GSBS requirement.

## Elective Courses

In addition to the course requirements on the previous page, a minimum of 2 additional advanced courses (or 3 courses if Mechanisms of Carcinogenesis is used to satisfy the molecular area requirement) are required. Formal courses may be recommended to students by their committee based on their individual needs. Some potential elective courses either taught at Science Park or video conferenced from GSBS are listed below. You can find information about other GSBS courses at: [http://gsbs.uth.tmc.edu/current\\_courses.htm](http://gsbs.uth.tmc.edu/current_courses.htm)

### Recommended Courses Offered at Science Park

GS120144	Introduction to Pathology (Spring even years)	4 hrs
TBA	"Molecular Methods and Biotechniques"	

### Potential Elective Courses Videoconferenced to Science Park

- **Eukaryotic Gene Expression** (GS040123 – spring annually)
- **Developmental Biology** (GS040073 – fall annually)
- **Cancer Cell Signaling** (GS040133 – spring annually)
- **Cell Biology** (GS040013 – fall annually)
- **Immunology I** (GS060014 – fall annually)
- **Molecular Principles of Virology** (GS040043 – fall annually)

## First Year Lab Rotations

GSBS Ph.D. students must complete with a grade of pass, three 10-week tutorial laboratory rotations under the supervision of three different GSBS faculty members. The rotations serve the dual role of introducing students to a variety of research environments and allowing them the opportunity to select an advisor to supervise their future dissertation research. If a student has extensive previous research experience, or a Masters degree, the student may request to waive the third rotation. This request must be approved by the GSBS Dean of Academic Affairs.

## Sample Molecular Carcinogenesis Coursework Timeline, Years One & Two

This is a sample timeline only. Depending on your academic background, interests and courses taken prior to joining Molecular Carcinogenesis, you may want or need to adapt it.

### Credit Hours Note

To be considered fulltime, you must register for a minimum of nine credit hours for the Fall and Spring terms, and a minimum of six hours for the summer term. As a result, in addition to the courses listed below, first year students should be aware that additional courses may be required to meet the graduate school's minimum credit hour requirement. In addition, please note that Research in Biomedical Sciences carries a default credit value of 9. This is a variable credit, i.e., you can register for 1 to 9 hours for this.

		All MC Students
<b>Year 1</b>	<b>Fall<sup>1</sup></b>	Basic Concepts of Tumor Biology Metabolic Biochemistry Biomedical Ethics Lab Tutorial #1
	<b>Spring<sup>1</sup></b>	Mechanisms of Carcinogenesis Lab Tutorials #2 and #3 Optional Elective
	<b>Summer</b>	Biomedical Statistics
<b>Year 2</b>	<b>Fall<sup>2</sup></b>	Functional Histology Optional Elective
	<b>Spring<sup>2</sup></b>	Introduction to Pathology

Fall<sup>1</sup> would be an even numbered year and Spring<sup>1</sup> would be an odd numbered year.

Fall<sup>2</sup> would be an odd numbered year and Spring<sup>2</sup> would be an even numbered year.

## Public Presentation Requirements

Before graduation, Molecular Carcinogenesis students are required to participate in the student seminar series and other events that require them to make an oral presentation.

### Presentation Venues

- **Molecular Carcinogenesis Program Student Seminar Series**

All Molecular Carcinogenesis students are required to attend a weekly student seminar series. Second year students and beyond are required to present a seminar based on their laboratory research once per year. The purpose of the student seminar series is to allow students to practice and develop their oral presentation skills. Developing these skills will be important for a career in the biomedical sciences.

- **Journal Club (GS000620 Literature Survey)**

All Molecular Carcinogenesis students are required to attend a weekly journal club. The purpose of the journal club is to learn how to critically read scientific papers and to develop critical thinking skills. The format may change from year to year but each student is expected to participate by reading the paper of the week and discussing the results and conclusions.

- **Annual Molecular Carcinogenesis Graduate Student Retreat (see page 32).**

## **Committee Meeting Requirements**

All GSBS Ph.D. students are required to meet with their advisory, examining or supervisory committee two times per year, usually in six-month intervals. You will find a detailed description of the different committee meetings, how to set them up, how to prepare, what to bring, what to expect, etc. in the “Committee Meetings” section starting on page 17.

All Molecular Carcinogenesis students should form their advisory committee within one month of joining a Molecular Carcinogenesis lab and the program following your last rotation. Students should schedule their first advisory committee meeting within four months of joining a permanent lab.

The purpose of your first advisory committee meeting is to meet everyone, discuss coursework, and get feedback on your experimental approaches, interpretations, and goals. Don't worry if you don't have results to present; the first meeting is to get advice that will help you plan your future directions. Don't delay your first meeting because you lack preliminary data.

## **Candidacy Exam** *(see “Candidacy” section for detailed information)*

Students in GSBS are required to pass the candidacy exam before advancing to Ph.D. candidacy. Most students take the candidacy exam in the fall semester of the third year. Students starting in the summer term will take the candidacy exam in the summer after the second year. All required GSBS coursework must be completed before taking the candidacy exam.

The student's advisory committee must determine if the student is sufficiently prepared to take the candidacy exam, so timely meetings during the pre-candidacy period are very important. GSBS requires that students gain their committee's approval, and petition for Ph.D. candidacy, before the end of the summer after their second year.

The Molecular Carcinogenesis candidacy exam is in the off-topic format and has a written component and an oral component.

### **Written Component**

The written component consists of two parts. The first part is the writing of three off-topic abstracts that could be developed into a full written proposal. The student's Advisory Committee approves the three off-topic ideas and the student's Exam Committee selects one of these abstracts to serve as the subject for the second part of the writing component, which is the writing of the main NIH style written research proposal.

## **Oral Component**

The oral component consists of the student's defense of their written research proposal before a committee of five faculty members.

## **Publication Requirement**

All GSBS Ph.D. students are required to have at least one peer-reviewed, first-author paper either published or in submission prior to obtaining permission to defend their dissertation. This policy applies to students who join GSBS in August 2006 and thereafter. However, it is hoped that all current students will also meet this minimum requirement.

This requirement is intended to encourage Ph.D. students (and their advisors) to have their dissertation work ready for publication prior to their defense. This avoids the problematic situation in which a student completes the Ph.D. but has not written up the work for publication before leaving. Often this leads to long and needless delays in publication that can harm the student's future career prospects. We hope that this requirement will encourage students and advisors to consider plans for publications at an early stage in dissertation projects.

Publications are an essential part of your training as a Ph.D. scientist. The requirement is only one part of what is expected for completion of the Ph.D. Your supervisory committee will ultimately judge if your research accomplishments are sufficient for a degree. Committees commonly expect more than one publication before the dissertation defense. Students are strongly encouraged to discuss your past publications and plans for future publications with your supervisory committee at each meeting.

Under extraordinary circumstances the Program Director may allow an exception to this rule. Such exceptions will be granted only with the unanimous consent of the student's supervisory committee; for example, when the student has completely developed research results that would clearly merit publication as a first-author paper in a peer-reviewed journal but, due to circumstances beyond the student's control, will not be submitted as such.

The final evaluation of a student's readiness to defend their Ph.D. thesis will take place one month prior to the defense date, when each committee member, the advisor and the program director are asked to sign the Permission to Defend form, available on the GSBS website.

## **Dissertation and Thesis**

The Molecular Carcinogenesis Program follows the GSBS guidelines for the Ph.D. Dissertation and Thesis Defense. See these GSBS web pages for further information.

**<http://gsbs.uth.tmc.edu/policies/phdreqs.html>**

**<http://gsbs.uth.tmc.edu/gradguide/thesis.html>**

# Course Descriptions

## Required Courses

- **Biomedical Statistics** (GS010014 – summer annually)
  - **Metabolic Biochemistry** (GS030014 – fall annually)
  - **The Ethical Dimensions of the Biomedical Sciences** (GS210051 – fall annually)
  - **Functional Histology** (GS120134 – fall odd years)
  - **Basic Concepts of Tumor Biology** (GS040083 – fall even years)
  - **Molecular Mechanisms of Carcinogenesis** (GS040113 – spring odd years)
- 

### GS010014 Biomedical Statistics

Course material will include the basic statistics usually found in introductory courses (t-tests, chi-square, contingency tables) but also will include a balanced emphasis on nonparametric methods, the analysis of variance and covariance through multi-way and hierarchical designs, and regression analysis from simple linear regression analysis through nonlinear methods. The use of personal computers and commercially available programs in the statistical analysis is emphasized in a computer laboratory. Presentation methods, graphics, and statistical word processing are also emphasized. Fulfills GSBS quantitative area breadth requirement.

4 semester hours.

**Prerequisite:** None.

### GS030014 Metabolic Biochemistry

A comprehensive overview of human intermediary metabolism. Areas covered include: protein structure and function; enzymology; energy releasing and consuming processes; anabolic and catabolic pathways of sugars, lipids, nucleic acids, amino acids and specialized biomolecules; nutrition; and clinical implications of metabolism. Textbook-based reading assignments. Graduate students attend lectures with medical students, but meet separately in small group conferences to develop topics appropriate for research-track students, and are tested and graded separately from the medical students. Fulfills the GSBS molecular area breadth requirement. 4 semester hours. This course is video conferenced to Science Park in the Fall semester.

**Prerequisite:** Introductory-level biochemistry course and consent of instructor. Limited to degree-seeking GSBS students.

### GS210051 The Ethical Dimensions of the Biomedical Sciences

This course examines the ethical concepts and traditions that undergird biomedical science. It explores such issues as commitment to truth and its breakdown in self-deception and fraud, the ethics of authorship, experimentation with human and animal subjects, responsibilities of scientists to society; science's relationship with industry; and the consequences of technologic advances from scientific learning. The course's aim is to teach students to recognize ethical conflicts and problems in their professional lives and to provide a framework within which to

analyze and resolve them. This course is required for graduation from all degree programs at GSBS. 1 semester hour.

**Prerequisite:** None.

### **GS120134 Functional Histology (Formerly "Introduction to Histology")**

This course is taught at the UTMDACC [Science Park/Research Division](#) campus in Smithville, Texas in Fall, odd-numbered years.

A concise course of histology and microscopic anatomy for graduate students working in the areas of experimental biology that require basic knowledge of tissue organization. This course is taught at the UT Science Park in Smithville, Texas. Fulfills the GSBS cellular area breadth requirement (alternative course). 4 semester hours.

**Prerequisite:** None.

### **GS040083 Basic Concepts of Tumor Biology**

This course is taught at the UTMDACC [Science Park/Research Division](#) campus in Smithville, Texas in Fall, even-numbered years.

A survey course of cancer biology including tumor pathology, initiation, progression and metastasis, genetic instability, DNA damage and repair, cell cycle control, oncogenes and tumor suppressor genes and the immune response. Fulfills the GSBS systems area breadth requirement. 3 semester hours.

**Prerequisite:** None.

### **GS040113 Molecular Mechanisms of Carcinogenesis**

This course is taught at the UTMDACC [Science Park/Research Division](#) campus in Smithville, Texas in Spring, odd-numbered years.

The course focuses on the molecular biology of cancer, including DNA damage and repair, oncogenic signaling, cell cycle and apoptosis mechanisms. This course is an alternative for fulfilling the molecular area requirement for students with a strong biochemistry and molecular biology background. This course is taught at the UT Science Park in Smithville, Texas. 3 semester hours.

**Prerequisite:** Metabolic Biochemistry (GS030014), Basic Concepts of Tumor Biology (*GS040083*) or consent of instructor.

## Potential Electives

- **Introduction to Pathology** (GS120144 – spring even years)
  - **Eukaryotic Gene Expression** (GS040123 – spring annually)
  - **Developmental Biology** (GS040073 – fall annually)
  - **Cancer Cell Signaling** (GS040133 – spring annually)
  - **Cell Biology** (GS040013 – fall annually)
  - **Immunology I** (GS060014 – fall annually)
  - **Molecular Principles of Virology** (GS040043 – fall annually)
- 

### **GS120144 Introduction to Pathology**

This course is taught at the UTMDACC [Science Park/Research Division](#) campus in Smithville, Texas in Spring, even-numbered years. A course aimed to provide graduate students working in areas of biomedicine with an understanding of pathology. This course is taught at the UT Science Park in Smithville, Texas. 4 semester hours.

**Prerequisite:** Introduction to Histology (*GS120134*) or any other histology course.

### **GS040123 Eukaryotic Gene Expression**

This is an advanced molecular genetics course in which current results and theories, based on primary journal articles, will be discussed. The primary emphasis will be on the transcriptional regulation of gene expression. The effect of chromatin conformation, RNA splicing and 3' sequences on gene expression will also be discussed. Fulfills GSBS molecular area breadth requirement (alternative course). 3 semester hours.

**Prerequisite:** None.

### **GS040073 Developmental Biology**

The mechanisms of embryogenesis and cellular differentiation will be discussed in terms of experimental evidence. The course will emphasize molecular, cellular and genetic analysis of developmental systems. Assigned reading will be recent research articles related to each lecture. These reading assignments, class lectures, and suggested readings in a standard textbook should give the student the opportunity to understand the major research problems in developmental biology and the methods used to solve these problems. Fulfills GSBS systems area breadth requirement. 3 semester hours.

**Prerequisite:** Consent of instructor.

### **GS040133 Cancer Cell Signaling**

The course is designed to provide an in-depth study of oncogenes including structure of the genes, regulation of expression, assays to detect activated oncogenes, role of oncogenes in tumorigenesis, and the relationship of oncogenes and growth regulation and differentiation. Satisfies GSBS cellular area course requirement. 3 semester hours.

**Prerequisite:** A basic knowledge of molecular biology, genetics and biochemistry; consent of instructor.

### **GS040013 Cell Biology**

Frost, Jeffrey; O'Neil, Roger. Three semester hours. Fall annually. Prerequisite: general background in biology and biochemistry. Enrollment limited to GSBS degree students.

This course is designed to develop a functional understanding of cell biology. It is organized into four general sections: I. Eukaryotic cell organization and function; II. Dynamics of organellar components; III. Physiological regulation of cell function; and IV. Cell-cell interactions. The course format includes lectures, round-table discussions, and didactic presentations. This is an introductory course with an interdisciplinary emphasis for students in cell and regulatory biology programs. Fulfills GSBS cellular areas breadth requirement. 3 semester hours

**Prerequisite:** General background in biology and biochemistry. Enrollment limited to GSBS degree students.

### **GS060014 Immunology I**

Topics covered in this lecture series include: anatomy and development of the immune system; structure, function and genetics of antibodies; T-cell antigen receptors; functions and cooperative interactions of lymphoid cells; structure and function of molecules encoded by the Major Histocompatibility Complex (MHC); lymphokines and their receptors; cellular interaction molecules; and specific immunological tolerance. Medically-related subjects that will be covered from a basic science perspective include: immunopathology, immunodeficiency, allergy and other hypersensitivities, autoimmunity, organ transplantation, tumor immunology, and AIDS. Fulfills GSBS cellular area breadth requirement. 4 semester hours.

**Prerequisite:** Undergraduate level Biology and Biochemistry courses plus a basic knowledge of cellular and molecular biology.

### **GS040043 Molecular Principles of Virology**

This is an introductory course in virology, which we encourage all students associated with the program to take at the earliest opportunity. We initially discuss the basic properties that unite all viruses, along with basic experimental approaches to their study. In addition, we aim to outline the properties that characterize each of the major groups of viruses, spanning the spectrum from those with small RNA genomes to those with large DNA genomes. Although emphasis will likely be placed on the animal viruses, discussion of the plant viruses may not be excluded. This course ideally prepares students with an interest in gene therapy, but who may have little background in virology, for course [GS040153](#).

# Committee Meetings

## Section Topics

- The Three Ph.D. Committees
  - Choosing Committee Members
  - GSBS Academic Standards Committee Approvals
  - When to Form Advisory Committee
  - Composition of Advisory Committee
  - Purpose of First Advisory Committee Meeting
  - Examining Committee
  - Supervisory Committee
  - Scheduling Committee Meetings
  - Preparing for Committee Meetings
  - Committee Meeting Reports
- 

## The Three Ph.D. Committees

During your graduate career, you will assemble three separate committees. Each committee is formed for a specific purpose and can be composed of a different mix of faculty.

### Advisory Committee

This committee will advise you as you begin your thesis project, through the time you finish your required coursework and are ready to take the candidacy exam. Your first advisory meeting should take place in the fall of your second year, or within four months of joining the Molecular Carcinogenesis Program.

### Examining Committee

This committee administers the candidacy exam, which you should take in the fall semester of your third year.

### Supervisory Committee

After you advance to candidacy, this committee oversees your progress for the remainder of your graduate training. The members of your supervisory committee can be the same as your advisory committee.

## Choosing Committee Members

A minimum of 3 Molecular Carcinogenesis faculty members (including your advisor) must be on each of your 3 committees. The composition of these committees will be an important contributor to your overall success since the committees oversee all aspects of your training. Thus, it is important to choose faculty who can best help you achieve your academic and experimental goals.

Seek your advisor's help in this process since he/she is likely to know more of the faculty than you, especially as you start your studies. The GSBS staff is also helpful in this process. Other students, especially those in your lab, may have good advice as well.

The GSBS has very specific requirements regarding the composition of your committees and all of them must be approved by the GSBS Academic Standards Committee. Visit their website for a description of each committee: [http://gsbs.uth.tmc.edu/current\\_faqs.htm](http://gsbs.uth.tmc.edu/current_faqs.htm)

Try to choose well-balanced committees that include experts in your research area, experts in the techniques and approaches you are likely to use, as well as outside members who will lend a fresh perspective to your ideas and approaches. Your "outside" members need to be outside your area of research but they can be from within the Molecular Carcinogenesis Program and they can work on the same model organism as you. We suggest that you discuss your selection of outside members with your advisor.

In addition to considering the expertise and research interests of prospective committee members, it is also important to consider their availability. It is often hard to schedule committee meetings when all of the members have extremely busy schedules. Also, it is highly desirable to choose some members who will serve on all three of your committees, to lend some consistency to your graduate studies. These "long-term" committee members will become extremely familiar with you and with all aspects of your training. This is a factor that becomes critically important when soliciting letters of recommendation for post-doctoral applications, fellowship applications, or other career purposes.

## **GSBS Academic Standards Committee Approval (ASC)**

The ASC requires that all forms submitted to it for evaluation be typed (not handwritten), e.g. Advisory/Supervisory Committees, Petitions for Candidacy, etc. These forms are all available on the "Forms" page of the GSBS website.

From the "FAQs" section of the GSBS website (6/9/09):

*"All committees must be approved by the GSBS Academic Standards Committee, which meets the second Wednesday of every month. All faculty members who wish to serve on committees for Ph.D. students and M.S. students must serve at a faculty or staff level at their home institution. If a proposed member of any of the following committees is not a GSBS faculty member, the ASC has requested that a 2-3 page NIH-style biosketch be submitted to the OAA with the committee application."*

## **When to Form Your Advisory Committee**

For most students, the first advisory meeting will be held during the fall semester of the second year. Remember, GSBS has very specific guidelines governing the composition of all three committees, and the Academic Standards Committee must approve your proposed members, along with the Molecular Carcinogenesis Program Director. Instructions on forming all committees are in the "Commonly Used Forms" section of the GSBS website: [http://gsbs.uth.tmc.edu/current\\_forms.htm](http://gsbs.uth.tmc.edu/current_forms.htm)

## **Composition of Advisory Committee**

Advisory Committee guidelines from the "Policies & Procedures/Student Committees" section of the GSBS website (6/9/09):

- The Advisory Committee consists of at least five Faculty members, including the student's Advisor, chosen to assure representation by faculty members competent in the student's major area of research.
- At least one member must have research interests which lie outside the student's major discipline.
- All of the members may not come from the same department or the same GSBS Program.
- The same person may meet all "outside member" requirements.
- Individuals outside the GSBS Faculty may serve on a student's committee when their particular areas of expertise are not represented on the GSBS Faculty, but there may be no more than two such members on the committee.
- If four of the members are from the same department/Program, the fifth member outside the department/Program must be a GSBS faculty member.
- If two members of the committee are non-GSBS faculty, the other three GSBS faculty members may not be from the same department or Program.

## Purpose of First Advisory Committee Meeting

Your first advisory meeting is a time for you and your committee to get to know one another. You should schedule it during the fall of your second year, before you register for the spring semester. This is very important so that your committee can meet you, advise you on courses and provide input on your proposed research project. See page 22 for suggestions on how to schedule committee meetings.

While it is not necessary to have data to present at your first committee meeting, your committee will expect you to make a short 20-30 minute presentation on the background of your project, your research plans for the next six months, and long term goals. The emphasis should be placed on your plans for the next six months. It is highly recommended that you review your presentation and slides with your advisor prior to your committee meeting.

### **What to bring to your first advisory meeting** (*enough copies for all committee members*)

- Your CV or NIH-style biosketch that includes your prior education, degrees received, honors received and any publications you have. *See Appendix for sample biosketch form.*
- Rotations you completed.
- A list of all GSBS classes you have taken and your grades.
- GSBS courses you plan to take.
- A written abstract of your proposed research plan (Specific Aims page). This should include an introduction, a hypothesis, specific aims, and a simple description of your plan. Your summary should be sent to your committee members at least five days before the meeting. Remember, it is not necessary to present data at this meeting.
- Your Power Point presentation slides.

At subsequent meetings, you should always provide an updated Specific Aims page. It is expected that your hypothesis, specific aims, and research plan will evolve over time as you begin to get results from your laboratory experiments. It is helpful to remind the committee how long you have been a GSBS graduate student, and to inform them of any new publications, courses, etc.

## Examining Committee

You will need to form your examining committee before petitioning to take your Ph.D. candidacy exam. The Molecular Carcinogenesis Program Director must approve your examining committee, and then you must get approval from the GSBS Academic Standards Committee. Keep in mind the following requirements when selecting your members:

- Your committee must include five faculty members, with at least two who have not served on your advisory committee.
- At least two of the five must be from the Molecular Carcinogenesis Candidacy Exam Subcommittee.
- The chair of your examining committee must be a member of the Molecular Carcinogenesis faculty.
- All of the members may not come from the same department or the same GSBS program.
- One member must be from an area of research outside your primary area of interest.
- Individuals outside the GSBS faculty may serve on a student's committee when their particular areas of expertise are not represented on the GSBS faculty, but there may be no more than two such members on the committee.
- If four of the members are from the same Department/Program, the fifth member outside the Department/Program must be a GSBS faculty member.
- Your Ph.D. advisor is not allowed to be a member of your examining committee, or even in the room.

## Supervisory Committee

From the "Requirements for the Ph.D." section of the GSBS website (6/9/09):

*"Within three months of the pass or conditional pass of the candidacy examination, the student, with the assistance of the Advisor, proposes a Supervisory Committee and submits the form to the ASC for its approval. Upon approval by the ASC and the Dean, the Supervisory Committee is notified of its appointment and informed of any conditions placed on the student by the Examining Committee. If the student receives a conditional pass, the Chair of the Examining Committee must serve as a member of the Supervisory Committee, at least until the conditional pass has been resolved."*

### Supervisory Committee Composition

Your supervisory committee can have the same members as your advisory committee, depending on the focus of your project. These guidelines are from the "Policies & Procedures/Student Committees" section of the GSBS website (6/9/09).

- The Supervisory Committee consists of at least five Faculty members, including the student's Advisor, chosen to assure representation by faculty members competent in the student's major area of research.
- At least one member must have research interests which lie outside the student's major discipline.
- All of the members may not come from the same department or the same GSBS Program.
- The same person may meet all "outside member" requirements.
- Individuals outside the GSBS Faculty may serve on a student's committee when their particular areas of expertise are not represented on the GSBS Faculty, but there may be no more than two such members on the committee.
- If four of the members are from the same department/Program, the fifth member outside the department/Program must be a GSBS faculty member.

- If two members of the committee are non-GSBS faculty, the other three GSBS faculty members may not be from the same department or Program.

## Scheduling Committee Meetings

Your committee provides you with a powerful set of allies. Five expert scientists have dedicated time specifically for you. The purpose of your committee meeting is to get feedback on your experimental approaches, interpretations, and goals. Often students delay scheduling a meeting because they feel they do not have enough new data. Such delays are counter-productive to graduation!

Often the time when a committee can be most helpful is when things are going slowly or are not working. Regular meetings with your committee will keep them abreast of your goals and will give them an opportunity to suggest new approaches, experiments, etc. that can move your work forward. Delaying committee meetings will only slow your progress.

Beginning in the fall of your second year, you should schedule committee meetings every six months. Below is a recommended meeting schedule for the duration of your graduate education.

### Year 2

September – Oct.	Advisory Meeting #1
March – April	Advisory Meeting #2 – <i>discuss taking your candidacy exam</i>
June – August	Advisory Meeting #3 – <i>a special candidacy exam advisory meeting to obtain approval to take the candidacy exam, to discuss the 3 candidacy exam abstracts submitted earlier, and to get the candidacy exam research proposal topic. No formal research presentation is required.</i>

### Year 3

October	Ph.D. Candidacy Exam
March – April	Supervisory Meeting #1

### Year 4 and Beyond

September – Oct.	Supervisory Meeting
March – April	Supervisory Meeting

### How to Contact Your Committee

The best way to contact your committee members and set up a meeting is through email. Molecular Carcinogenesis faculty email addresses are listed on page three of this handbook. They are also available on the Molecular Carcinogenesis and GSBS websites. Approximately two months prior to the time you want to schedule the meeting (the earlier the better!), email each committee member and ask for his/her schedule within a two-week time frame. Often, an attached Excel spreadsheet or calendar, which can be marked for availability, is helpful. Keep in mind that meetings during holiday periods and the summer are more difficult to schedule. See the sample note below.

## Sample Email to Faculty

Dear Dr. \_\_\_\_\_,

*Thank you for agreeing to serve on my Advisory [Examining/Supervisory] committee. I would like to schedule my first [next] meeting between October 1<sup>st</sup> and October 15<sup>th</sup>. Would you please check your schedule and let me know when you will be available during that period?*

*Thanks again,  
Your name*

## Scheduling Difficulties

If a faculty member does not reply within one week, follow up with a phone call or a visit to his or her office. If you cannot find a time in your original two-week period when everyone can meet, adjust the time frame accordingly and send out another round of emails.

If it turns out to be very difficult to find a time when all committee members can meet, it is possible to hold your meeting with one member absent. However, be sure to first ask your advisor if this is OK. If it is, then check with the person who can't attend to make sure it is OK with him or her to miss the meeting. After the meeting, be sure to check back with the missing member to discuss what happened. The exception to this is for your candidacy exam and thesis defense, at which all committee members should be present. Note – the GSBS has guidelines regarding committee member substitutions when necessary.

Remember, the earlier you begin scheduling, the more likely you will be able to find a time when everyone is available. It is unrealistic to wait until a few days before you want to have a meeting and expect to find a time when five busy people are all available.

## Reserving a Meeting Room

Contact your advisor's support staff or a departmental administrative assistant to reserve a room for your meeting. While most committee meetings should take 1–1.5 hours, reserve a room for 2 hours to provide ample time for set-up before the meeting and a discussion after your presentation.

## Meeting Confirmation and Reminders

After the room is reserved, send another email to your committee members to confirm the date, time and room number for your committee meeting. Also send a reminder email to your committee one week before the meeting with your research abstract attached (see below), and then a final reminder one day before.

## Preparing for Committee Meetings: What to Do & What to Expect

One week before your committee meeting, give each committee member a written specific aims page along with the meeting date, time and room number, as noted above. Your specific aims page should include a short introduction to your project, a statement of your hypothesis, and a description of your specific aims. The GSBS has posted a Specific Aims template in the candidacy petition file, in the forms section of their website. Although the template specifically states one page only, for committee meetings your specific aims can be two to three pages.

For your first Advisory Committee meeting, as stated previously, a simple description of your proposed research plan should follow the introduction. For subsequent meetings, experiments attempted or completed in the past six months should be briefly summarized. In all cases, the

research summary should end with a list of realistic goals for the next six months, and a comparison to the goals you stated at your previous meeting.

### **Presentation Guidelines**

For each committee meeting, you should prepare a 30-minute talk summarizing the background of your project, research goals and progress. You can review your presentation with your advisor prior to the meeting.

The content of the talk should include a review of the specific experiments you have done since the last meeting and end with your goals for the next six months. Keep in mind that you do not have to present every experiment you have performed or every project that you have started. Keep the presentation focused on the major goals for your thesis.

During your presentation, committee members may ask for clarification of your experimental approach or your results. Make good slides or overheads for your presentation. Ask your advisor for advice on making the slides. All data should be clearly labeled and diagrams outlining the experiment are often helpful.

After your presentation, the committee will likely ask additional questions to initiate a discussion of the quality of the data, your interpretations, alternative approaches, etc. You should take notes of experiments, alternatives, criticisms, etc. offered by the committee during this time.

If you prepare your presentation well and are familiar with your research topic, most committee meetings should take 1 to 1.5 hours.

## **Committee Meeting Reports**

Within one week of each meeting the Student and their Advisor (Chair of the Committee) should complete the GSBS "Report of Advisory/Supervisory Committee Meeting" form, sign it, and submit it to the Office of Academic Affairs, GSBS, 3.8344 BSRB. The student should complete their section and sign the form prior to the Advisor completing their portion and signing the form. A copy of this report should be sent to each member of the Committee and to the student. If either the student or Advisor needs additional space to add comments, they should be typed on a continuation page.

This form is on the GSBS website under "Committee Forms" at the top of this page: **[http://gsbs.uth.tmc.edu/current\\_forms.htm](http://gsbs.uth.tmc.edu/current_forms.htm)**

This report is the only official record of your committee meeting, so it is very important that the GSBS receives the report in a timely manner. If you do not receive a copy of the report within one week of your committee meeting, ask your chair when it will be available.

# Molecular Carcinogenesis Ph.D. Candidacy Exam

## Section Topics

- Overview
  - Advancement to Candidacy Exam
  - Candidacy Exam Committee
  - Written Exam
  - Oral Exam
  - Grading of Exam
  - Proposal Writing Tools
  - GSBS Rubric for the Evaluation of Exam Performance
  - M.S. Bypass
  - GSBS and Molecular Carcinogenesis Candidacy Forms
- 

## Overview

In order to advance to candidacy for a Ph.D. degree, you must pass the Molecular Carcinogenesis candidacy exam. The exam consists of writing an NIH style original research proposal which is off-topic from your dissertation research project, and an oral defense of the proposal. The subject of the research proposal is selected by your Exam Committee from three, off-topic abstracts you write.

A GSBS-approved examining committee will oversee the process and determine if you pass the exam. Prior to forming your examining committee, you must complete all required coursework and your advisory committee must recommend that you are ready to take the candidacy exam.

## Advancement to Candidacy Exam

- A. Students must petition to take the Candidacy Exam by the end of Summer term after their second year. The first step is to obtain permission from the student's Advisory Committee.
- B. The Advisory Committee's role is to insure that each student formulates the major aims of the dissertation research project, understands the methodology to address the aims, recognizes potential problems and has a good command of the relevant literature.
- C. The student is expected to present a PowerPoint presentation of the dissertation research plan and defend it at the final Advisory Committee meeting. The student should prepare a one-page summary (Specific Aims page) of your proposed dissertation research for your final advisory meeting, which is where you will request approval to take the candidacy exam (summer meeting). You will also attach this summary (Specific Aims page) to your Petition for the Candidacy Exam that you will submit to the Academic Standards Committee. It should include a brief background, a clearly stated hypothesis, specific aims and the methods by which the aims will be carried out. Guidelines for this summary are in the GSBS "Template

for Specific Aims Page for Petitions for Candidacy”. Please note that this summary is separate from the three off-topic abstracts.

- D. The student should also develop 3 off-topic ideas for the written off-topic proposal in distinct research areas. The three off-topic ideas should fit on one page and include rationale, a testable hypothesis, and details regarding the experimental system (i.e., the type of cancer). Specific Aims are not expected at this time. **The advisory committee must approve the three off-topic subjects but will not choose the off-topic.** The student’s Candidacy Exam Committee will choose the off-topic subject for the written proposal.
- E. Students are required to attend a meeting with the MC Program Candidacy Exam Committee Chair or Program Director to review the guidelines prior to the student being given permission to take the exam.

## Candidacy Exam Committee

The student’s Candidacy Exam Committee will be composed of at least 2 members from the MC Program Candidacy Exam Committee and three members at large. At least two members must not have served on the student’s Advisory Committee. The Advisor may not serve in any capacity on the Exam Committee. At least one member must have research interests that lie outside the student’s major discipline. All of the members may not come from the same department or the same GSBS program. The same person may meet all “outside member” requirements. The student may choose the Chair of the Exam Committee. Your examining committee must first be approved by the Molecular Carcinogenesis Program Director and then by the GSBS Academic Standards Committee. Paperwork should be initiated early to avoid unnecessary delays in forming this committee.

## Written Exam

- A. The student submits the dissertation project Specific Aims page, the three off-topic ideas and the Ph.D. Examination Committee form together with the Petition for the Ph.D. Candidacy Examination form to the GSBS for approval by the Academic Standards Committee. The student’s Candidacy Exam Committee will select the final topic for the written exam.
- B. **Definition of “off-topic”**  
Each off-topic idea should be different from the student’s planned dissertation work. However, students are encouraged to propose a topic that is relevant to their research interests. The overall objective is for the student to develop novel concepts and approaches in the “off-topic” research proposal.

The topic may be related to the student’s dissertation project but is subject to the limitations below. The central hypothesis and specific aims should not:

- Include work the student has already done or is planned in the dissertation project.
- Overlap with projects the student completed as part of a previous thesis or dissertation (if you have another degree).
- Overlap with projects that are being worked on by others in the mentor’s lab.
- Be based on trivial variations of published work or of the student’s dissertation project (i.e. the same experiments in another organism or the exact same approach applied to a different gene).
- Simply repeat experiments that have already been published or presented publicly by others.

If students have questions about whether a particular idea for a proposal is “off-topic” they can ask the chair of the Candidacy Exam Committee or MC program director before starting on it.

- C. The student will be expected to read the relevant literature and prepare a thoughtful and well-organized document. The proposal should demonstrate the student’s ability to formulate and test independent hypotheses that will advance the field.
- D. The format for the written exam will follow NRSA Guidelines for the Research Plan. The proposal is organized into four sections as follows.
  - a. Specific Aims. This section is limited to one page.
  - b. Rationale and Significance. This section can include a brief review of the literature, but primarily focuses on potential relevance of the proposed project to advancing the field and to promoting human health.
  - c. Prior Studies. This section can incorporate selected Figures or Tables from the literature to support the rationale and hypothesis **AS LONG AS THE ORIGINAL PAPERS ARE ACCURATELY CITED. WORKING MODELS ARE ACCEPTABLE, BUT ANTICIPATED RESULTS SHOULD NOT BE REPRESENTED AS ACTUAL DATA.**
  - d. Experimental Plan. At least 5 pages should be devoted to this most important section. Provide the rationale, experimental design and methods that will be used to address the overall hypothesis and each Specific Aim. Include a discussion of *Potential Outcomes* and *Alternative Approaches*.
  - e. Additional formatting guidelines:
    - i. There is a strict 10 page limit not including References.
    - ii. Use Arial font, size 11 and single spacing.
    - iii. 0.5 inch margins left/right top/bottom
    - iv. use *Cancer Research* format for citations.
    - v. Convert the completed document to a pdf file and submit it electronically to each member of the Exam Committee.
- E. Students will have 4 weeks to write the assignment independently. They will not be expected to be in the lab during this time. The deadline is firm. If a student misses the deadline they will have only one chance to write a new exam on a different topic. The Chair of the Exam Committee will inform the student of the new topic and due date of the proposal.
- F. The mentor is encouraged to advise the student in writing a well-organized, succinct and focused document. The student may also consult with other faculty members who are experts in the chosen area. However, **the student must independently develop the hypotheses, aims and experimental plan.** The mentor and student will co-sign a cover page confirming that the mentor reviewed and provided guidance on the organization and format of the document, but that the student independently developed the hypotheses and proposed experiments. This signed form should be turned in to the Program Coordinator before beginning the written proposal (see form below).
- G. Grading will be based on the following criteria:
  - i. A clearly stated, and testable hypothesis
  - ii. Knowledge of the literature relevant to the research area
  - iii. Specific aims that are feasible and directly test the hypothesis
  - iv. Thorough discussion of expected results, potential problems and alternative approaches

## H. EVIDENCE OF PLAGIARISM IS CAUSE FOR FAILURE AND DISMISSAL.

### Oral Exam

- A. The student will need to schedule a date, time, and room for the oral exam. The oral exam date should be at least 7 weeks after the Exam Committee is given your 3 off-topic ideas.
- B. The student will make an oral presentation of the proposal before the Exam Committee within two weeks after submission of the written proposal.
- C. When the committee meets for the oral exam, they will first discuss and grade (pass/fail) the written exam/proposal. If the written proposal is deemed unacceptable, the committee may allow the student to rewrite the proposal or ask the student to write a new proposal on a different topic. The student must pass the written portion of the exam before proceeding to the oral exam.
- D. The oral presentation should be in PowerPoint format and be no more than 30 minutes. It should contain no more than 5 minutes of background information.
- E. The purpose of the oral presentation is to explain the proposal's hypothesis and describe the experimental approaches used to test the hypothesis. It should include specific rationale for each proposed experiment, methods, how results will be interpreted, possible pitfalls and alternative approaches.
- F. The mentor is encouraged to advise the student on how to prepare an effective oral defense of the proposal.
- G. In addition to defending the specific research plan, the student will be asked general questions related to the proposal in order to test breadth of knowledge.

### Grading of Exam

After the question session, your committee will elect to give you one of four possible grades for your oral exam – Unconditional Pass, Conditional Pass, Retake, Fail. The exam may seem intimidating, but keep in mind that advisory committees give their approval for students to take their exams based on their belief that the students are adequately prepared and will pass it. Conditional and Unconditional Passes are the most common outcomes. Conditions attached to a Conditional Pass usually involve rewriting part or all of the proposal, writing a literature report on an area of deficiency or enrolling in a course specified by the committee that will benefit the student's education. A student receiving a grade of Retake is required to take the exam again. Students always perform much better on the second try.

*According to GSBS policy, "Failure of the [candidacy] examination means the Examining Committee has decided that the student does not have the potential to complete the Ph.D. program, and the ASC will recommend to the Dean that the student be dropped from the Ph.D. program. The committee has the option of allowing the student to continue towards a terminal M.S. degree, or recommending that the student not be allowed to continue in a degree program. Subsequent to dismissal, the student may re-apply to GSBS whereupon the application will be considered in competition with other applications pending at the time."*

## Proposal Writing Tips

### GSBS Writing Tips

General tips for formatting a research proposal are available on the GSBS website:  
<http://gsbs.uth.tmc.edu/policies/proposal.html>

### M.D. Anderson Scientific Publications Writing Tips

There is an outstanding, online proposal-writing resource called “Writing Effective Grant Proposals” on the M.D. Anderson Scientific Publications office website.

## GSBS Rubric for the Evaluation of Exam Performance

Your examining committee will provide you with a completed rubric for the evaluation of your candidacy exam. The instructions below are copied from the GSBS form:

### RUBRICS FOR EVALUATION OF CANDIDACY EXAM PERFORMANCE AND M.S./PH.D. DEFENSES

*The attached [see next page] evaluation rubrics have been formulated and approved for use by the GSBS standing committees in an effort to assist students and faculty alike. The rubrics should be of assistance to students since they will provide guidelines as to what will be expected of students by faculty during their candidacy exams and defenses. The rubrics should be of assistance to faculty in that they will provide guidelines for assessing student performance during the candidacy exam and defense. They are by no means the only criteria by which students may be assessed, and they are not intended to specifically dictate to faculty how to assess student performance.*

*The distribution and use of the rubrics will be as follows:*

1. *The rubrics for the Evaluation of Candidacy Exam performance should be provided to:*
  - a. *Ph.D. students and their Advisory Committee faculty when the Advisory Committee is approved by the GSBS Academic Standards Committee (ASC), and*
  - b. *to the student's Examination Committee when the ASC approves the student's Petition for Ph.D. candidacy.*

*After the Ph.D. Candidacy Exam, the completed rubrics should be submitted to the GSBS Office of Academic Affairs (OAA) when the Examination Committee submits the Results of Examination forms. The Examination Committee may elect to submit these as one per Examination Committee member, or may elect to submit one form for the entire Examination Committee.*

2. *The rubrics for the Evaluation of M.S./Ph.D. defense performance should be provided to:*
  - a. *M.S. and Ph.D. students and their Supervisory Committee faculty when the Supervisory Committee is approved by the ASC.*

*After the defense, the completed rubrics should be submitted by the Supervisory Committee to the OAA when the Results of Defense are also submitted to the OAA.*

*Students and faculty alike should be assured that the design of the rubrics, i.e. using a Likert scale of assessment (strongly agree, agree, etc.), is primarily for internal GSBS usage during accreditation processes that require monitoring student outcomes using these types of methods. The final decisions regarding the candidacy exams and the defenses will still be decided by the faculty using methodologies currently in place. The rubrics are therefore intended to be advisory.*

**EVALUATION OF CANDIDACY EXAM PERFORMANCE** (A GSBS Form)

Student Name: \_\_\_\_\_

Faculty Evaluator: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Stongly Disagree</b>	<b>Rubric</b>
				Demonstrated competency in knowledge in the quantitative core area.
				Demonstrated competency in knowledge in the molecular core area.
				Demonstrated competency in knowledge in the cellular core area.
				Demonstrated competency in knowledge in the systems core area.
				Demonstrated command of the general knowledge required of a biomedical scientist
				Had command of the literature in the field of study being examined.
				From the literature, was able to identify questions that need to be answered to advance his/her field
				Formulated a clear hypothesis concerning at least one of the questions from the literature.
				Formulated clear, focused specific aims that led to experiments to test the hypothesis.
				Understood the methods that would be needed to carry out the experiments in the proposal.
				Was able to display critical thinking, could design experiments in a rational way, and could identify the strengths and weaknesses of his / her experimental design.
				Was able to effectively communicate in writing and orally the design and possible interpretation of the proposed research.
				Was able to answer questions about the proposed research project in a professional manner.
				Was able to answer questions concerning anticipated experiments, potential pitfalls of the overall plan, and projected contingency plans to achieve the specific aims.

## **M.S. Bypass**

Once you successfully pass your candidacy exam, your examining committee may elect for you to bypass the M.S. degree. This means that you will proceed directly on to your post-candidacy Ph.D. studies without writing and defending an M.S. thesis. (*see the GSBS online document “Requirements for the Doctor of Philosophy Degree” for more information*).

## **GSBS and Molecular Carcinogenesis Candidacy Forms**

The various GSBS forms required for the candidacy exam include the following. All are available on the GSBS website at [http://gsbs.uth.tmc.edu/current\\_forms.htm](http://gsbs.uth.tmc.edu/current_forms.htm) (except for the Mentorship Guidelines form).

- Petition for Ph.D. Candidacy Examination
- Template for Specific Aims Page for Candidacy Petition
- Ph.D. Examining Committee Form
- Candidacy Exam Results Report Form
- Code of Conduct and Pledge Form
- Molecular Carcinogenesis Program Form
- Mentorship Guidelines for Molecular Carcinogenesis Candidacy Exam (obtain from Program Coordinator)

# Program Events and Activities

## Annual Retreat

All Molecular Carcinogenesis students are required to attend an annual Program Retreat. The annual retreat is organized by a committee consisting of the Program Director, the President of the Program GSA and additional Program students and faculty. Students beyond their first year are expected to submit an abstract based on their research. Some abstracts will be chosen for oral presentations while others will be chosen for a poster presentation. Both oral and poster presentations will be judged and prizes given to the top three presentations in each category. The Molecular Carcinogenesis students choose and invite an outside keynote speaker to give a seminar during the retreat. The outside speaker is often an alumnus of the Program and maybe someone representing an academic or alternative career for Ph.D. scientists. In some years a joint retreat may be organized with another GSBS Program. One purpose of the retreat is to allow students the opportunity to organize a scientific meeting and fosters special interactions among Program students and faculty.

## Dissertation and Thesis Defense Seminars

All Molecular Carcinogenesis students are expected to attend the thesis and dissertation defense seminars by graduating Molecular Carcinogenesis students. This is a chance to cheer for your successful colleagues and learn what is expected for a Ph.D.

## Directors' Roundtable and Student Focus Group

Twice each year, the Molecular Carcinogenesis Director meets with students over lunch to discuss suggestions and concerns, and answer questions about the program. Student feedback is essential to strengthen the program for everyone and all students are encouraged to participate. Prior to the roundtable, a student-led focus group often meets to discuss issues to bring to the meeting.

## Departmental Seminars and Events

Molecular Carcinogenesis students are highly encouraged to attend the various seminars sponsored the Department or the Center for Research on Environmental Disease (CRED). In addition, students are encouraged to attend seminars and presentations that are videoconferenced to the Department. Below is a list of the regularly scheduled seminars.

**The Hogg Distinguished Lecture Series.** These seminars are presented by internationally recognized leaders in their fields and usually occur one a month on the second or fourth Wednesday at 11 am.

**Faculty Seminar Series.** These seminars are presented by departmental faculty members and usually occur once a month on the second or fourth Wednesday.

**CRED Seminar Series.** These seminars are sponsored by the Center for Research on Environmental Disease and may take place on the Science Park campus or be videoconferenced from Houston or UT-Austin.

**Center for Cancer Epigenetics Seminars.** These weekly presentations are videoconferenced to Science Park each Friday afternoon at 3:30 pm.

**DNA Repair Interest Group.** These monthly seminars are videoconference to Science Park from participating institutions from around the country. They take place on the second Tuesday of each month at 11:30 am.

# Awards

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## Overview

The Molecular Carcinogenesis Program, GSBS and M. D. Anderson offer many awards for students throughout the year. The Molecular Carcinogenesis awards are listed below.

For awards available to all GSBS students go to the GSBS website.

GSBS awards: [http://gsbs.uth.tmc.edu/current\\_funding.htm](http://gsbs.uth.tmc.edu/current_funding.htm)

For MD Anderson student awards, go to the MD Anderson Trainee and Alumni Affairs Office website.

**Website:** <http://www.mdanderson.org/education-and-research/education-and-training/trainee-and-alumni-affairs/index.html>

A list of available MD Anderson and GSBS awards can be found in the Appendix section at the back of this handbook.

## Molecular Carcinogenesis Awards

### Molecular Carcinogenesis Travel Awards

Travel awards are available to Molecular Carcinogenesis students who are presenting results at a national or international meeting, as long as funds are available. The student must have had an advisory, examining or supervisory committee meeting during the six months prior to submitting an award request. Only one award per student, per year, is allowed, and the number of awards is strictly limited due to budget constraints. The one-page application may be obtained from the Program Coordinator.

**Award Amount: \$1,200.00**

### Molecular Carcinogenesis Retreat Poster Award

Three student poster awards are given at the annual fall retreat for posters presented at the retreat.

**Award Amount: First Place \$100.00 cash; Second and Third Place \$50.00 cash**

### Molecular Carcinogenesis Retreat Scientific Talk Award

Three student outstanding talk awards are given at the annual fall retreat for talks presented at the retreat.

**Award Amount: First Place \$100.00 cash + \$300.00 travel stipend; Second Place \$50.00 cash + \$200.00 travel stipend and Third Place \$50.00 cash + \$150.00 travel stipend**

# M. D. Anderson & UTHSC-H Resources

## Section Topics

- M. D. Anderson Research Weekly
  - M. D. Anderson Department of Scientific Publications
  - M. D. Anderson Research Medical Library
  - M. D. Anderson Medical Graphics & Photography
  - M. D. Anderson Trainee and Alumni Affairs
  - M. D. Anderson Ombuds Office
  - M. D. Anderson Employee Assistance Program
  - M. D. Anderson Free English Classes
  - UTHSC-H Counseling Services
  - UT Police Department
- 

## M. D. Anderson Research Weekly

Research Weekly is a week-at-glance listing of scientific events at M. D. Anderson. Distributed each Thursday, the email contains a brief description of scientific events for the following week. To subscribe, send an email to [researchweekly@mdanderson.org](mailto:researchweekly@mdanderson.org) and ask to be added to their mailing list.

## M. D. Anderson Department of Scientific Publications

**Hours:** Monday – Friday 8:00 a.m. to 5:00 p.m.

**Phone:** (713) 792-3305

**Location:** Pickens Academic Tower, 6<sup>th</sup> floor (FCT6.5086).

*Please note that their satellite office in the research medical library is now closed.*

**Website:** <http://inside.mdanderson.org/departments/scipub/>

The Department of Scientific Publications provides a wide range of editorial services to the M. D. Anderson Cancer Center community, free of charge. Their main role is to assist M. D. Anderson faculty and staff with their publishing endeavors. They are available to

- edit journal articles, book chapters, grant proposals, and abstracts.
- consult with authors on early drafts of their work.
- answer questions about publishing, book and journal production, word usage, grammar, and style.

They have also written and published two valuable writing guides on their website: “**Writing Effective Scientific Articles**” and “**Writing Effective Grant Proposals**.”

## **M. D. Anderson Research Medical Library**

### **Hours**

Monday – Friday: 7:30 a.m. to 7:00 p.m.  
Saturday: Closed  
Sunday: Closed

### **Telephone Numbers**

Information Desk: (713) 792-2282  
Document Delivery: (713) 745-4531  
Fax: (713) 563-3650

### **Location**

Pickens Academic Tower, 21<sup>st</sup> Floor. 1400 Pressler Street

**Website:** <http://www.mdanderson.org/library/>

### **Journal and Online Database Access**

The Research Medical Library licenses access to over 15,000 journals online, and subscribes to approximately 550 journals in print. For recent years, about 90% of the print journals are also available online. The Online Journals page of the library's website is the one best place to check to see what the library has available both online and in print. The library also provides access to approximately 100 licensed databases through the Databases page of its website.

### **Registering for Remote Access and Library Privileges**

The Research Medical Library is a member of the Texas Health Science Libraries Consortium (THSLC) that includes the major University of Texas component libraries in the Medical Center and UTMB in Galveston. Registering for library privileges with one library provides borrowing privileges at all members of the consortium. The libraries share an online catalog of their collections, and users can search the collections of all of the libraries at one time.

Registration is also required before using other Research Medical Library services, such as starting a printing & photocopy service account or requesting a copy of an article through document delivery (ILLiad). To register for library privileges, go to the Research Medical Library's Information Desk with your M. D. Anderson badge. You can also register via fax. If you wish to do this, call the Information Desk (713-792-2282) for assistance.

All M. D. Anderson employees can apply for remote access to the Library's resources (online journals, books, and databases) by calling 4-INFO (713-794-4636). 4-INFO will provide a form that must be endorsed by your supervisor or department head and returned to 4-INFO before you will receive a user name and password.

### **Library Classes**

The library offers free classes throughout the year, which include, EndNote, PubMed, Finding Journals Online, Cited Reference Searching, RSS for New Publications, and SCOPUS. Check the library website for current class offerings. For registration information, visit: <http://www.mdanderson.org/library/>

## M. D. Anderson Medical Graphics & Photography

### Hours and Phone

Monday – Friday 8:00 a.m. to 5:00 p.m.  
Client Service: (713) 792-6734 (*Yellow Zone*)

### Location

Yellow Zone, Room Y2.5724

**Main Website:** <http://inside.mdanderson.org/departments/medical-graphics/index.html>

**Education Hub:** <http://inside.mdanderson.org/departments/medical-graphics/mg-p-education-hub.html>

### About Medical Graphics

Medical Graphics & Photography provides professional graphic design, computer graphics, illustration, custom and stock photography, large format printing and lamination services. All services are provided on a fee-basis. On their website you will also find institutional logos, poster templates, graphics tutorials, graphics standards, and a stock photography library.

### Online Scientific Poster Tip Sheets

Tip Sheets: <http://inside.mdanderson.org/departments/medical-graphics/tip-sheets.html>

- Microsoft PowerPoint Template Tip Sheet
- Adobe Illustrator Template Tip Sheet
- Adobe Illustrator Tools & Palettes Tip Sheet
- Basic Guidelines & Costs for Client-Made Scientific Roll-up Posters
- Working with Type
- Steps in Developing and Refining Your Copy
- Deciding What Graphics to Use
- Poster Content Checklist

### Online Templates

- Scientific Poster Templates for PowerPoint and Illustrator  
<http://inside3.mdanderson.org/faculty/medgraphics/template.htm>
- On-Screen M. D. Anderson Title Slides (PowerPoint template)  
<http://inside.mdanderson.org/departments/medical-graphics/m-d-anderson-powerpoint-presentation-templates.html>
- M. D. Anderson Memo, Letterhead, Fax  
<http://inside.mdanderson.org/departments/medical-graphics/memo-letterhead.html>

### Onscreen Tutorials

<http://inside3.mdanderson.org/faculty/medgraphics/educationhub.htm>

- How to Download M. D. Anderson Logo
- Using the Crop Tool in Photoshop
- Basic Techniques for Preparing Images for Publication Seminar

## M. D. Anderson Trainee and Alumni Affairs Office

**Phone:** (713) 792-2696

**Location:** Pickens Academic Tower, FCT 7.500, 1400 Herman Pressler Dr.

**Website:** <http://www.mdanderson.org/education-and-research/education-and-training/trainee-and-alumni-affairs/index.html>

The M. D. Anderson Trainee and Alumni Affairs Office provides services to support the needs of M. D. Anderson graduate students. Their services include, but are not limited to:

- Trainee appointments.
- Visa support/liaison with Office of International Affairs.
- Verification of employment and training for loan deferments and tuition reimbursements for research trainees.
- Publication of an online “Trainee Survival” guide with detailed information about Houston for newcomers.
- Institutional and benefits orientation.
- Career development workshops.

## M. D. Anderson Ombuds Office

**Phone:** (713) 792-4896

**Location:** Pickens Academic Tower (FCT10.5081), 1400 Hermann Pressler Drive

**Website:** <http://www.mdanderson.org/departments/ombuds-office/>

### **About the Ombuds Office** *(from the Ombuds web page)*

*“The M. D. Anderson Ombuds Office provides a confidential, impartial, independent and informal process to facilitate fair and equitable resolutions to workplace concerns that arise at the M. D. Anderson Cancer Center. The Ombuds Office takes into consideration the interests of all individuals and the interests of the institution in a given situation. The Ombuds Office serves all members of the M. D. Anderson workforce, including trainees and fellows, by responding promptly and fairly to concerns, complaints or disputes arising from or affecting their work environment, and by providing a safe place to discuss these issues without fear of retaliation.”*

### **What are some common problems people present to the ombuds?**

*“Any type of conflict in the workplace that an objective third party could clarify or mediate is appropriate. Employees often come to the Ombuds Office to discuss interpersonal misunderstandings, feelings of abuse of power or disagreements about policy, procedure or career concerns. People often visit the Ombuds Office when they are not sure where to go, or where to seek guidance, or how to address the problem, or what options are available. The Ombuds Office is a good place to discuss a sensitive question or issue. For example: Difficult work relationships; Perceived unfair treatment; Management problems.”*

*“What about confidentiality? Confidentiality is respected and protected so that individuals can freely clarify their problems without fear of retribution or loss of standing with friends, peers or supervisor.”*

Visit their website to learn more about their confidentiality policy and their services.

## **M. D. Anderson Employee Assistance Program (EAP)**

**Phone:** (713) 745-6901

**Hours:** 8:00 a.m. to 5:00 p.m.

**After Hours Urgent Calls:** (281) 537-7445 or (800) 848-4641. Say that you are an M. D. Anderson student, employee or dependent and ask to speak to the on call EAP counselor.

**Website:** <http://www.mdanderson.org/about-us/for-employees/employee-resources/employee-health-and-well-being/programs-and-services/employee-health-well-being-programs-services-employee-assistance-program-eap-.html>

### **About the EAP Program** *(edited from the EAP web page 6/15/09)*

*The Employee Assistance Program (EAP) at M. D. Anderson provides confidential assistance to all employees, faculty, designated trainees and students and retirees to help resolve problems that effect their personal lives and performance on the job. Immediate family members of employees also are eligible for these services. Everyone, on occasion, is challenged by personal problems and concerns. These may include family or relationship issues, work-related stresses, issues about alcohol or drug use, situations when legal help is needed, financial pressures, the loss of a loved one or health concerns such as depression or anxiety.*

Program Services Are Provided at No Cost and Include:

- Confidential assessment, short-term consultation and referral services for a variety of personal and work-related stressors.
- Personal legal assistance. A legal helpline is staffed by contracted attorneys who provide consultation at no cost to the employee for a wide variety of personal legal matters.
- Critical incident stress debriefing. Assistance is available to a work group affected by the death of a coworker or other traumatic event.
- Management consultation and training.
- Employee training.

### **Confidentiality** *(from the EAP web page 6/15/09)*

*“EAP information is kept strictly confidential, consistent with applicable laws and professional standards. In the case of a self-referral or supervisor-suggested referral, information is not released to anyone without the authorized consent of the client. In the case of a formal supervisor referral, the EAP notifies the supervisor to confirm only whether or not the employee has contacted the EAP and whether recommendations have been followed.”*

## **Free English Classes at M. D. Anderson**

M. D. Anderson offers free English As A Second Language (ESL) classes for trainees, faculty and staff four times each year. The classes include: Speaking Naturally, Pronunciation, Grammar, Effective Presentation and Meeting Skills, Effective Communication in the Workplace and Writing. The classes are taught at M. D. Anderson by University of Houston instructors. They are three hours per week for 10 weeks. You must register in person at M. D. Anderson for coaching and evaluation. Classes start about two weeks after the registration period. For more information, contact Mercedes Suraty-Clarke at: [msclarke@uh.edu](mailto:msclarke@uh.edu) or go to:

**<http://inside.mdanderson.org/human-resources/employee-development/training-programs/es-class-11-08.pdf>**

## **UT Counseling and WorkLife Services**

**Phone:** (713) 500-3327 or 800-346-3549

**Hours:** Services are offered all day, all week, all year (24/7)

**Counseling Website:** <http://publicaffairs.uth.tmc.edu/worklife/counseling/services.html>

**WorkLife Website (main):** <http://publicaffairs.uth.tmc.edu/worklife/index.html>

UT Counseling & WorkLife Services provides counseling, legal, financial, wellness, and other services for GSBS students and their immediate families. Their services are strictly confidential (see their confidentiality statement on their website), and are free and available to all benefits-eligible faculty, staff, students, residents and fellows and their immediate families.

Free psychiatric consultations and on-going care are available upon request and need. The professional and support staff at UT Counseling and WorkLife Services look forward to working you and your immediate family as they continue building responsive and caring programs that recognize the unique and challenging issues faced by students.

Please visit their website to learn more about their services. To schedule an appointment, call (713) 500-3327.

## **University of Texas Police Department**

**Non-Emergencies:** (713) 792-2890

**Emergencies:** 911

**Website:** <http://www.mdanderson.org/utpd/>

The University of Texas at Houston Police Department (UT Police) provides law enforcement and community services to the M. D. Anderson Cancer Center and UT Health Science Center at Houston institutions.

Smithville office: (512) 237-9411 (79411)

Smithville officer on-call pager: (512) 205-2231

# Changing Advisors & Leaves of Absence

## Section Topics

- Changing Advisors
  - Taking a Leave of Absence
- 

## Changing Advisors

From the “Policies & Procedures/Faculty Advisors” section of the GSBS website (6/15/09):

*“A student may select a new Advisor with the approval of the ASC. To request a change the student should submit a letter to the ASC describing the circumstances for the requested change. The current and prospective Advisors must submit letters to the ASC certifying that the student has discussed the proposed change with them, that they have both had the opportunity to review the student’s academic record, that they have discussed the proposed change with each other, and providing any other comments they wish to make. The prospective Advisor also should indicate his/her willingness to provide academic guidance and financial support for the student.*”

*Students who change Advisors are still expected to meet the stated deadlines for completion of degree requirements. If an extension is desired, a written request, including justification for the extension and an estimated date for completion of the requirement in question, must be submitted to the ASC for approval.”*

## Taking a Leave of Absence

From the “FAQs” section of the GSBS website (6/15/09):

### ***May I Take a Leave of Absence?***

*“The GSBS allows students to request an official Leave of Absence (LOA) for up to one year. During an official LOA, the student can not be paid by the advisor or the GSBS, but may work at outside employment. Students may request an official LOA from the Office of Academic Affairs at the GSBS. Students must state a date when they will return to the GSBS. If they do not return by that date, and they have not been granted an extension of the LOA, they will be considered to have withdrawn from the GSBS.*”

*Students may return prior to the date that they stated they would return. Students returning from LOA do not need to re-enter the Admissions process, but they must notify the OAA that they are returning just prior to the semester that they wish to re-enroll in. Extensions of the official LOA for up to one additional year may be requested through the OAA, and must have the approval of the Dean of the Graduate School. An official leave of absence request petition must be filled out by the student and turned into the OAA. As a part of this form, numerous signatures are required from various offices around the TMC, indicating that the student is permitted to initiate a leave of absence with non-registered status.”*

# Dissertation Defense

## Section Topics

- Planning Your Defense
  - Formatted Dissertation for Supervisory Committee
  - Reserving a Room
  - Defense Announcements
- 

## Planning Your Defense

From “For Graduating Students/Steps To Graduation” on the GSBS website (6/15/09):

1. *Write your Thesis/Dissertation*
2. *Submit the “Request for Defense of the M.S. Thesis or Request for Defense of the Ph.D. Dissertation” form to the Office of Academic Affairs (GSBS, BSRB 3.8451)*
  - *turned in at least 10 working days before defense*
  - *include a one-page abstract - electronic submission is encouraged*
3. *Defend your Thesis/Dissertation; submit signed Results of Defense. Defenses must occur no later than two weeks prior to the end of a term.*
4. *Submit Your Thesis/Dissertation to the Office of Academic Affairs*
  - *original Thesis/Dissertation, approved by your Supervisory Committee*
  - *only **one unbound** Thesis/Dissertation is required*
  - *on good quality white paper such as copier paper*
  - *black specks from copier machines should not be evident!*
5. *SUBMIT EXIT FORMS (Exit Forms can be picked up at GSBS, BSRB 3.8451.)*

*Ph.D. Forms:*

  - *Alumni Form; Survey of Earned Doctorates; Microfilming Agreement; Application for Degree; Exit Clearance Form*
  - *submit cashier’s check or money order (no personal checks or cash) in the amount of \$65 made out to “Proquest Information and Learning” to pay for microfilming your dissertation*

For detailed information about submitting your dissertation, defense guidelines and exit requirements, go to these two GSBS web pages:

**<http://gsbs.uth.tmc.edu/policies/phdreqs.html>**

**<http://gsbs.uth.tmc.edu/gradguide/thesis.html>**

## **Formatted Dissertation for Supervisory Committee**

When you submit your dissertation to your supervisory committee prior to your defense, it should be in its final formatted form per GSBS guidelines. This includes correct grammar, word usage, spelling and final figures.

## **Reserving a Room**

You are responsible for scheduling the room for your defense. You should reserve your room for 2 1/2 hours – 1/2 for set up and 2 hours for your seminar and committee meeting that will follow.

## **Dissertation Defense Announcements**

The Molecular Carcinogenesis Program Coordinator prepares and posts a printed defense announcement on all bulletin boards on campus and sends an email invitation to all Molecular Carcinogenesis faculty and students. In order to prepare these announcements, students should provide the Molecular Carcinogenesis Program Coordinator with the date and time, room number, and seminar title as soon as it is known. GSBS also sends out email announcements to all GSBS faculty and students for all M.S. and Ph.D. defenses.

# Leaving M. D. Anderson

## Section Topics

- Checking-out of your Department and/or M. D. Anderson
  - Checking-out with the G&D Program Coordinator
- 

## Checking-out of your Department and/or M. D. Anderson

When you are ready to leave your department, check with your advisor's support staff to find out what you need to do.

Trainee check out takes place no earlier than two weeks and at least within five days prior to the trainee's end date. Trainees must report to the Trainee & Alumni Affairs (TAA) office to begin the check out process, Pickens Academic Tower, FCT 7.500. No appointment is necessary. All trainees receive a clearance form to be completed and signed by the departments listed on the form, e.g. medical library, payroll, etc.

The check out process is complete once a trainee has been cleared by all departments required on the clearance form, and has returned the completed clearance form and ID badge to Trainee & Alumni Affairs in person or by interoffice mail or has given both to his/her department for mailing to TAA via interoffice mail. See page 42 for their contact information or go to this website to learn about their checkout procedures:

**<http://inside.mdanderson.org/education/medical-scientific-education/trainee-check-out-procedure.pdf>**

## Checking-out with the Molecular Carcinogenesis Program Coordinator

After you have completed your degree, please give the Program Coordinator your forwarding information, including your next position, lab, location, email address and mailing address.

# Appendix

## Molecular Carcinogenesis Forms

All Molecular Carcinogenesis forms are available on the Molecular Carcinogenesis website at [www.mdanderson.org](http://www.mdanderson.org)

- Program Affiliation Form
- Molecular Carcinogenesis Travel Award Application Form
- Mentorship Guidelines for Molecular Carcinogenesis Candidacy Exam
- MD Anderson and GSBS Awards and Scholarships

### GSBS Forms

GSBS forms are available on the GSBS website at:

[http://gsbs.uth.tmc.edu/current\\_forms.htm](http://gsbs.uth.tmc.edu/current_forms.htm)