

**THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER  
AT SAN ANTONIO GRADUATE SCHOOL OF BIOMEDICAL SCIENCES**

**GUIDELINES FOR THE GRADUATE PROGRAM IN  
CELLULAR AND STRUCTURAL BIOLOGY**

The Graduate Program in Cellular and Structural Biology offers research training in the Biology of Aging; Cancer Biology; Cell & Molecular Biology; and Genetics, Genomics & Development. The curriculum is designed for those seeking Doctor of Philosophy degrees who intend to pursue a career in the academic community or industry. The graduate program also offers Master of Science degrees in the Anatomical Sciences and Biotechnology. The Graduate Program is overseen by the Committee on Graduate Studies (COGS). As described in Attachment A, COGS is comprised of a group of faculty selected to administer various aspects of the Graduate Program, including monitoring of student progress.

**GENERAL REQUIREMENTS FOR GRADUATE STUDENTS**

**Requirements for Admission**

Students beginning graduate study ordinarily matriculate during the fall session. Completed applications, including scores on the Graduate Record Examination Aptitude Test, certified transcripts of all college and/or postgraduate work, a letter from the applicant stating his/her objectives in graduate study, and three letters of recommendation, must be received before February 1st to be considered for admission the following August. January admission will not be considered except in very unusual circumstances. Applicants must possess a Bachelor's degree or an equivalent degree and must have credit for the following courses.

- Biology: Two years as required for science majors.
- Chemistry: One year of general inorganic and a course in organic chemistry.
- Physics: One year as required for science majors.

(N.B. The courses listed above should include laboratory experience.)

- Mathematics: At least one semester of calculus.

The Guidelines of the Graduate School of Biomedical Sciences recommends a minimum undergraduate GPA of 3.0 and a cumulative (Verbal plus Quantitative) GRE score of 1000. At the discretion of the Admission Committee and with approval from the Graduate Faculty Council, an admission requirement may be waived.

**Admission of Graduate Students through Faculty Sponsorship**

Recruitment of graduate students by the Admission Committee may be supplemented by selections initiated by faculty members of Cellular and Structural Biology. This procedure will enable individual faculty members to look for potentially good graduate students who are interested in the sponsor's particular line of research. The entering students selected by individual faculty members must meet the criteria for admission set up by the Graduate School and be approved by the Admissions Committee. Unlike the students selected by the Admission Committee, those recruited by individual faculty members will be supported by the sponsoring faculty's research grants from the beginning. The faculty sponsor is required to guarantee funding for at least one year. The students must satisfy all of the requirements outlined in the Cellular and Structural Biology Graduate Program Guidelines. A student will have the option to change his/her mentor. In the event that a student decides to leave the laboratory of the sponsoring faculty member, the original mentor will be under no further financial obligation to this student after the initial year of support. The student will have full responsibility for finding his/her own support for the ensuing years.

## **Financial Assistance**

A Ph.D. student recruited by the Admissions Committee receives financial support for the first twelve months of study. At the end of the 12-month period, the responsibility for the student's stipend shifts to the laboratory in which he/she has selected to complete the dissertation research. If a student is still in the process of identifying a laboratory at the end of 12 months, he/she may petition COGS for up to a four-month extension of funding. However, an extension is not guaranteed and is dependent on availability of funds and final approval of the Chair of the Department. The amount of the yearly stipend shall be in accordance with the policies of the Department of Cellular and Structural Biology or the agency from which the fellowship is obtained. A graduate student cannot receive more than five years of financial support from a training grant stipend and regardless of the source of funds, will be urged to finish the Ph.D. degree within this time. Students are encouraged to seek and provide their own federally supported or private foundation fellowships to support their entire graduate training. Students on the M.S. track do not receive departmental stipends.

## **Course Requirements for Ph.D. and M.S. Candidates**

Doctoral students in Cellular and Structural Biology are required to take a series of basic courses (designated the Core Curriculum) as described in the Catalogue of the Graduate School of Biomedical Sciences. Additional courses may be taken if desired by the student or at the request of the Supervising Professor and/or Qualifying Examination Committee. A typical course plan for Ph.D. students is included as Attachment B. The course requirements for Master's students will be determined on an individual basis; typical course plans for M.S. students are included in Attachment C.

### **Core Curriculum:**

Fundamentals of Biomedical Sciences- taken in the Fall Semester of the first year

Graduate Colloquium – taken in the Spring Semester of the first year

Track-specific Core Course – taken in the Spring Semester of the first year

Ethics in Research - taken in the Spring Semester of the first year

Experimental Design and Data Analysis - taken in the Fall Semester of the second year

Scientific Writing - taken in the Fall Semester of the second year

### **Two electives from an approved list**

## **Seminar Course:**

The student is required to register for and attend Seminar (CSBL 6090) every fall and spring semester that he/she is enrolled in the Graduate Program. The Seminar Course is organized by the Student Seminar Chair, a faculty member selected by COGS. All students are expected to attend departmental seminars and a journal club in addition to the other activities, detailed below:

### 1. Research Seminar

Each Ph.D. student is required to present an oral seminar based on research conducted at this institution in the second and all subsequent years. Student research seminars are designed to ensure that students receive adequate opportunity to communicate and defend their research results. Guidelines for student seminars are included as Attachment D.

### 2. Seminar Course Grading

Letter grades in the seminar course will be given for student attendance and participation in seminars and in journal clubs based on attendance. Students participating in joint programs with a clinical department may file for exemption from seminar during semesters with heavy clinical loads. Each student in a clinical program is limited to two semesters of exemption.

### 3. Journal Club

A Ph.D. student must attend either the Departmental Journal Club or, with prior approval from COGS, another weekly journal club may be substituted. Each student is required to present a Journal Club presentation on a paper of his/her choice in the first and second years

### **Laboratory Rotations:**

During the first year of graduate study, each predoctoral student must participate in research with three different investigators in the graduate program. These "laboratory rotations" begin in the fall semester and **must** be completed by the end of the second semester. Rotations are intended to: a) acquaint the student with specific research topics in the graduate program, b) introduce students to technique(s) which may prove useful in their dissertation research and c) allow an opportunity for the student to assess whether he/she is compatible with the mentor and his/her laboratory personnel. The three laboratory rotations will each be 6 to 8 weeks in duration. These are **not** intended to result in a manuscript. Choice of the laboratories for rotation should be made based upon the student's specific research interests and in consultation with the Student Advisor. A proposed list of rotations will be prepared and given to the Student Advisor prior to beginning the first rotation. The evaluation form to be completed by the faculty member following completion of each rotation is included in the Guidelines as Attachment G. A grade of "Unsatisfactory" (U) for 50% or more of the semester hours applied to this requirement shall be grounds for dismissal from the Program. Once rotations are completed, the student will choose a laboratory for completion of his/her research. The form for mentor selection (Attachment F) must be signed by both student and the proposed advisor and submitted for COGS approval prior to completion of the student's first year.

### **Grade Requirements**

A minimum of a 3.0 cumulative grade point average must be maintained in order to remain in good academic standing. If a student receives a "D" or "F" in any course or a final grade of "C" in a Core Course, he/she may be subject to dismissal from the Program. If the cumulative grade point average drops below 3.0, the student shall be placed on academic probation. While on probation, a student must maintain a "B" average in all registered courses. If the grade point average drops below 3.0 in any semester during the probationary period or remains below 3.0 for one calendar year, the student may be dismissed from the Program. A 3.0 grade point average is required for graduation.

### **Exemptions from Required Course Work**

Requests for exemptions for any of the required course work must be submitted in writing to the Chair of COGS and must be approved by COGS.

### **Exemptions for Double Degree, Transfer and Advanced Students**

Students enrolled concurrently in medical or dental school, those transferring from another graduate program and ones with Master's degrees who have been admitted to the Graduate Program in Cellular and Structural Biology may petition COGS for exemption from one or more of the courses within the Core Curriculum. Exemption will only be considered if a grade of "B" or better was obtained in an equivalent course. If letter grades are not available, the student's numerical average must be at or above the class average. Master's candidates can usually transfer up to six semester hours of course work, while the number of semester hours for which predoctoral students may obtain transfer credit will not be subject to a predetermined limit.

### **Student Evaluations**

The Student Advisor will conduct semiannual evaluations of each student for the purpose of following his/her progress throughout the tenure of the graduate program. These evaluations are to take place at the end of the fall and the spring semesters of each academic year. A grade of satisfactory (S) or unsatisfactory (U) shall be given by the Student Advisor and will be reported as the grade for Research/Dissertation/Thesis. For the first two years, the grade will be based on reports from the laboratories in which the student has done rotations or from his/her chosen mentor and on student participation in required course work, seminars, journal clubs and other departmental activities. After appointment of the dissertation/thesis supervising committee, the Research grade will be based on reports from the committee members after semiannual committee meetings, research evaluations based on the student's annual seminar and participation in departmental seminars, journal clubs and other activities. The forms for committee and rotation progress reports are appended as Attachment G. If a committee meeting has not been held within 6 months, a grade of "U" will be given for research progress that semester. However, if the student has already scheduled a committee meeting, the Student Advisor has the option of giving a grade of "I". Failure of a student to show satisfactory progress toward his/her degree goal based on the outcome of these evaluations may be grounds for dismissal from the Cellular and Structural Biology Graduate Program.

## **SPECIFIC DEGREE REQUIREMENTS**

### **MASTER OF SCIENCE DEGREE**

The program of graduate study leading to the Master's Degree will depend on the student, the area of specialization, and the professional career for which the student is preparing. A typical program is outlined in Attachment C. A minimum of 30 semester hours of graduate credit is required for the Master's degree. Twelve of these hours must be completed in courses other than Seminar, Supervised Teaching and Research. COGS requires a thesis and an oral examination.

### **Procedural Sequence for Students Working Toward the M.S. Degree**

During the first year of study, the Student Advisor will serve as academic advisor. During this time, each student shall take at least 12 hours of courses other than seminar, supervised teaching, and research/thesis. Members of the Supervising Committee (see below) may also be selected during the latter part of the first year so that they may assist in formulation and review of the thesis project. The thesis proposal should be prepared early in the second year (Attachment H for guidelines). After the supervising professor and members of the Supervising Committee have approved the final draft of the proposal, the student will present the proposal to the members of COGS in a short (10-15 minute) talk to be given no later than the end of the first semester of the second year. Three items must be given to the Chair of COGS a minimum of one week prior to the presentation: i) a copy of the final thesis proposal, ii) a signed copy of the committee proposal approval form (attachment J), and iii) the Recommendation for Approval of Thesis Proposal and Supervising Committee Form (included as an item under Attachment K). Copies of the proposal will be distributed to all members of COGS such that it can be read prior to the defense. After the presentation, members of COGS will ask the students questions about the proposal. They will then vote to accept the proposal and committee or recommend changes.

The student and advisor will provide COGS the names of the members of the student's Supervising Committee. The Supervising Committee shall consist of the Supervising Professor (research advisor) who shall act as the chair, at least two additional members of the Graduate Faculty in Cellular and Structural Biology, and one individual who is a member of another Ph.D.-granting graduate program from within the Health Science Center (this individual may also serve on the CSB graduate faculty, but it may not be his/her primary appointment). Once this Committee has been approved by COGS, the student will be automatically recommended to the Dean of the Graduate School for Admission to Candidacy. Any exceptions to the defined committee structure require COGS approval. After admission to candidacy the student must register for at least one semester of Thesis prior to graduation. The Committee shall then guide the student in selection of any additional courses and in research or library activities.

After the proposal has been approved and the student admitted to candidacy, the Supervising Committee shall hold regularly scheduled meetings with the candidate at least twice a year (or more often if needed) to determine progress on the project. The Committee shall evaluate work conducted to date and recommend any additional studies to be undertaken. Each member shall complete an evaluation form for M.S. students (see Attachment G). It is the student's responsibility to give the Student Advisor the completed forms. If a member of the Committee is absent from a meeting, he/she must be apprised of the student's progress by the Supervising Professor. When the Supervising Committee is satisfied that the research is near completion, it shall permit the writing of the thesis; it will be defended in a seminar-type presentation scheduled through the Graduate School Office. Stipulations regarding preparation of the thesis and its final approval are identical to those described for the doctoral dissertation and are included (Attachment I).

## **SPECIFIC DEGREE REQUIREMENTS**

### **DOCTOR OF PHILOSOPHY DEGREE**

The program of graduate study leading to the degree of Doctor of Philosophy will depend on the student, the area of specialization, and the professional career for which the student is preparing. A typical program is outlined in Attachment B.

#### **Procedural Sequence for Students Working Toward the Ph.D. Degree**

During the first year, the Program Student Advisor shall serve as the academic advisor for each beginning graduate student. In the first year, beginning graduate students shall take the Core Curriculum and the Core Course specific for his/her chosen track. During this same time, these students should be involved in research activities in the laboratory of at least three research advisors and may take any additional courses of interest as listed in the Graduate Catalogue. By Spring of the first year of graduate study, each student should select a research track and a research mentor.

#### **I. Qualifying Examination**

**Note: The format for the written part of the Qualifying Examination and the Dissertation Proposal are identical, however there can be no overlap in topics.** All Ph.D. students in the Cellular and Structural Biology Graduate Program are required to pass an oral Qualifying Examination. The Qualifying Examination shall consist of the student's writing and then publicly defending a research proposal. It should be written in the format of an NIH-postdoctoral grant application (NIH form PHS 416-1; Rev 10/2005 <http://grants1.nih.gov/grants/funding/416/phs416.htm>) having a limit of 10 single-spaced pages (not less than 11 font) to describe Specific Aims & Hypothesis, Background & Significance, Research Design, Methods & Expected Results. The section on Literature Citations is not included in the 10 page limit. The specifics of the qualifying exam will be determined by the track. The purpose of the Qualifying Examination is to test the ability of the student (1) to formulate an original hypothesis, (2) to design feasible experiments to test that hypothesis, and (3) to defend the resulting proposal. Individual tracks will be responsible for evaluating the

grant proposal and defense. The student's dissertation advisor cannot be a member of the Qualifying Examination Committee, but should attend the defense.

## **II. Formal Approval of Dissertation Committee**

After completion of the Qualifying Examination, the student, with the help of his/her advisor should choose a Dissertation Committee. The Dissertation Committee must consist of:

- i) at least three faculty members from the chosen track
- ii) one faculty member from another graduate track within the University of Texas Health Science Center, San Antonio
- iii) one member from outside of the institution; this individual should not be a close collaborator on the proposed research project.

Any exceptions to this prescribed committee structure must be justified in a memo to the Chair of COGS from the student and mentor. These requests will then be reviewed by COGS and a vote of approval/disapproval taken.

The first duty of this committee will be to assist the student in the planning of his/her dissertation project and in the writing of the dissertation proposal. It is the responsibility of the Dissertation Advisor to present the list of committee members to the COGS Chair and to the Seminar Chair for presentation to the Cellular and Structural Biology COGS.

The Dissertation Committee shall meet as a group with the candidate at least twice a year. No later than one week prior to each meeting, the student shall submit to the Dissertation Committee a report of progress on the dissertation research work, including statements of objectives of the research, methods, major results obtained, conclusions drawn, and proposed direction of future work. The Committee shall evaluate the progress made by the student and agree on the direction of future work to be undertaken. Each member shall complete an evaluation form for Ph.D. students (see Attachment G). It is the student's responsibility to give the Student Advisor the completed forms. The Dissertation Committee shall decide when the student's progress is sufficient to permit writing the dissertation.

## **III. Presentation of Dissertation Proposal**

**Note: The format for the written part of the Qualifying Examination and the Dissertation Proposal are identical, however there can be no overlap in topics.** All Ph.D. students in the Cellular and Structural Biology Graduate Program are required to write and defend a Dissertation Proposal. The Dissertation Proposal shall consist of the student's writing and then publicly defending their research proposal. It should be written in the format of an NIH-postdoctoral grant application (NIH form PHS 416-1; Rev 10/2005 <http://grants1.nih.gov/grants/funding/416/phs416.htm>) having a limit of 10 single-spaced pages (not less than 11 point) to describe Specific Aims & Hypothesis, Background & Significance, Research Design, Methods & Expected Results. The section on Literature Citations should not exceed two pages. The specifics of the Dissertation Proposal will be determined by the track.

After the written version is completed, the student shall present the proposal to the program in a seminar to be given no later than the end of the summer semester of the 2nd year. The proposal must first be approved by all local members of the student's committee. Two weeks before the seminar, the student shall provide a written copy of the proposal (Format described above) and the signed Recommendation for Approval of the Dissertation Research Proposal and Supervising Committee form (one of the items in Attachment K) to the Seminar Chair who will make copies of the proposal available to the graduate faculty for critical review.

After the student has completed his/her presentation, the Seminar Chair will open the meeting for questions from the audience. After all questions have been exhausted, all in attendance, exclusive of the graduate faculty, shall be asked to leave and the Seminar Chair will open the meeting for the discussion of the proposal. At the end of the discussion, the COGS shall vote for approval or disapproval of the dissertation proposal. A majority vote shall determine approval or disapproval. The composition of the Dissertation Supervising Committee will then be discussed and approved by vote of the COGS.

In the case of disapproval, the Chair of the COGS and the Seminar Chair will meet with the student and the dissertation advisor to present the reasons given for this decision. Based on this input, the student shall present a revised or new proposal to the COGS within three months.

#### **IV. Admission to Candidacy**

After the student has passed the Qualifying Examination and has successfully presented a dissertation proposal to COGS, and removed all grades of "I" (Incomplete) from his/her record, the forms recommending his/her admission to candidacy (Attachment K) will be submitted to the Dean of the Graduate School. The student will then register for Dissertation (CSBL 7099) instead of Research hours. A student must register for Dissertation at least twice prior to graduation. He/she shall remain in residence in the Program and participate in all activities normally required of full time graduate students until the dissertation is completed and the Final Oral Examination has been conducted.

#### **V. The Final Oral Examination**

The instructions for preparation and submission of the dissertation should be obtained from the Graduate Dean's Office. The student may opt to utilize either the traditional dissertation format or the optional chapter format. The Final Oral Examination shall be conducted by the Dissertation Committee. All interested persons may attend. Ordinarily the examination will be preceded by a seminar-type presentation of the research findings by the candidate. This presentation should not exceed 50 minutes. Immediately following the presentation, the members of the audience, exclusive of the Supervising Committee, shall be given the opportunity to ask questions. After these questions have been exhausted or within a reasonable length of time, the audience is to be excused. The examination shall continue with the Supervising Committee and the candidate only. Following completion of the examination, the Supervising Committee shall vote on the candidate's performance. More than one negative vote shall constitute failure. In the event of a failing performance, the Committee in consultation with COGS, shall decide on the appropriateness of another exam.

#### **VI. The Dissertation**

The typing of drafts and the final copy, collating and proofreading of the dissertation are the responsibility of the student. The departmental secretarial staff shall not perform any of the above as part of its regular duties. A final copy of the dissertation must be submitted to the Chair of COGS of the Graduate Program in Cellular and Structural Biology.

#### **VII. Awarding of the Degree**

Once all requirements for the Ph.D. have been satisfied, the relevant paperwork will be given to the Chair of COGS for processing and presentation to Graduate Faculty Council (GFC). After the Chair of COGS has approved the dissertation, the student must submit the final copy of the dissertation and all other supportive information to the Graduate Dean's Office. The recommendation of COGS is then presented to GFC.

#### **VIII. Time to Completion of Degree Requirements**

Ph.D. students are usually expected to complete all degree requirements, including the dissertation defense, in approximately five years of full-time studies. If a student has not defended his/her dissertation before completing six years of full-time studies, he/she is subject to dismissal from the Program for lack of progress. A student may request that COGS extend the limit of six years for degree completion.

Guidelines approved by COGS 6/1/84. Amended by COGS 1/9/85; 3/21/85; 6/3/85; 11/5/85; 1/8/88; 07/19/88; 02/17/89; 03/27/90; 12/19/91; 03/20/94; 07/01/94; 08/13/98; 6/10/99; 11/01/01; 06/20/02; 09/24/03, 08/14/07.

## **GUIDELINES FOR PROGRAM ADMINISTRATION BY THE FACULTY OF CELLULAR AND STRUCTURAL BIOLOGY**

1. Criteria for membership on the Graduate Faculty. Faculty colleagues whose primary appointments are outside of the Department of Cellular and Structural Biology must meet the following requirements:
  - A. Ph.D., M.D., D.D.S. (or equivalent) degree
  - B. Evidence of an active research program
  - C. Record of active participation in Cellular and Structural Biology's Graduate courses, laboratory rotations, comprehensive and qualifying exams and dissertation committees
  - D. Acceptance by one of the tracks (Biology of Aging, Cancer Biology, Cell & Molecular Biology, or Genetics, Genomics & Development)
2. Several faculty members will oversee the administration of the Cellular and Structural Biology Graduate Program as members of COGS. The members of COGS and the term of each position are:

**Chair of COGS** - 3 yrs. Appointment by the Chair of the Department of Cellular & Structural Biology.

Full time faculty member of Cellular and Structural Biology. Will be the Departmental Graduate Faculty Council (GFC) Representative and serve as a liaison between the Department and the Graduate Council for the purpose of completing all business matters related to the Cellular and Structural Biology Graduate program. Will oversee the efficient execution of all activities of COGS so that the Graduate Program is carried out in an organized fashion. Will schedule COGS meetings. The outgoing Chair will assist the newly appointed Chair with August activities to facilitate the transition.

**Leaders of CSB Tracks** – Appointment by the Graduate Dean.

Full time faculty member. Will oversee the efficient execution of all activities of the track so that the Graduate Program is carried out in an organized fashion. Will schedule Track administration meetings and report Track activities to COGS.

**Student Advisor** - 3 yrs. Appointment by the Chair of Department.

Full time faculty member of Cellular and Structural Biology. Will advise students, carry out student evaluations, supervise student rotations, monitor course requirements, and assure that deadlines and committee appointments are met. The outgoing Student Advisor will assist the newly appointed Student Advisor with Orientation and other August activities to facilitate the transition.

**Admissions Chair** - 3 yrs. Appointment by the Chair of Department.

Full time faculty member of Cellular and Structural Biology. Will appoint and work with a committee chosen to reflect the various research areas of the faculty of Cellular and Structural Biology. Provisions will be made for staggering terms of Committee members. Will supervise the selection of qualified candidates for the Cellular and Structural Biology Graduate Program.

**Seminar Program Chair** - 2 yrs. Appointment by COGS.

Will supervise student research seminars and obtain faculty evaluations of the student presentations.

**Qualifying Examination Chair** - 2 yrs. Appointment by COGS.

Will supervise the writing and presentation of a grant application by second year students. Will have the authority to select faculty members to help grade the written and oral presentations.

**Journal Club Chair** - 2 yrs. Appointment by COGS.

Will organize and direct the departmental journal club where students and faculty will participate in discussing significant and recent publications.

**Awards Committee Chair** - 2 yrs. Appointment by COGS.

Will supervise the evaluation of students eligible for departmental, institutional, and other awards and will make recommendations to COGS on appropriate nominations for such awards.

**Anatomy Liaison** - 2 yrs. Appointment by COGS.

Will assist with all aspects of the graduate program involving students in the professional anatomy courses. This will include M.S. students with an emphasis on anatomical sciences, Ph.D. students who choose to take and/or teach in anatomy courses, and dual degree students. This individual will serve as the COGS liaison and ensure that any issues or special needs of these students are brought to the attention of COGS.

3. Appointments will announced no later than July 1 and responsibilities assumed August 1.

Attachment B

**TYPICAL COURSE PLAN FOR A Ph. D. STUDENT  
ENTERING IN THE FALL SEMESTER**

<u>Fall semester - first year</u>	Hours
Fundamentals of Biomedical Sciences	10
Research (rotations)	1
 <u>Spring semester - first year</u>	
Track specific core course	3 or 4
Colloquium	2
Ethics	0.5
Research (Rotations)	3.5
 <u>Summer - first year</u>	
Research	6
Track specific core (only some tracks)	
 <u>Fall semester - second year</u>	
Experimental design/data analysis	2
Scientific Writing	2
Research	5
 <u>Spring semester - second year</u>	
Seminar (writing and defense of dissertation proposal - must be completed)	1
Research	8
 <u>Fall/Spring semester - third year</u>	
Seminar	1
Dissertation (if proposal has passed COGS)	variable
 Elective(s) (two electives from an approved list <b>MUST BE</b> taken anytime during training)	

Attachment C

**TYPICAL COURSE PLAN FOR AN M.S. STUDENT  
ENTERING IN THE FALL SEMESTER  
Biotechnology Track**

<u>Fall Semester - First Year</u>	Hours
Fundamentals of Biomedical Sciences	10
Research	1
Radiation Safety Course	0
<u>Spring Semester - First Year</u>	
Research	4
Advanced Core Course or Elective (optional)	2-4
Ethics	0.5
<u>Summer Semester - First Year</u>	
Research	4
<u>Fall Semester - Second Year</u>	
Experimental Design/Data Analysis	2
Research (Thesis proposal should be presented to COGS during this semester)	6
<u>Spring Semester - Second Year</u>	
Thesis	8

Note: The Seminar Course **MUST** be taken at least once during a student's tenure in the Program.

Attachment C

**TYPICAL COURSE PLAN FOR AN M.S. STUDENT  
ENTERING IN THE FALL SEMESTER  
Anatomy Track**

<u>Summer Semester - First Year</u>	Hours
Gross Human Anatomy (OT)	5
Research	1
<u>Fall Semester - First Year</u>	
Gross Anatomy & Embryology (if the summer course was <b>NOT</b> taken)	7.5
Microscopic Anatomy	5
Research (if the summer course <b>WAS</b> taken)	4
Radiation Safety Course	0
<u>Spring Semester - First Year</u>	
Neuroscience	4
Research	2-4
Ethics	0.5
<u>Summer Semester - First Year</u>	
Research	4
<u>Fall Semester - Second Year</u>	
Experimental Design/Data Analysis	2
Research (Thesis proposal should be presented to COGS during this semester)	6
<u>Spring Semester - Second Year</u>	
Thesis	8

Note: The Seminar Course **AND** Supervised Teaching **MUST** be taken at least once during a student's tenure in the Program.

## Attachment D

### GUIDELINES FOR PRESENTATION OF STUDENT SEMINARS

- WHY?** To provide students with the opportunity to develop seminar presentation skills.
- To provide faculty the opportunity to evaluate the student's progress on the research aims and to contribute their expertise.
- WHEN?** Second year students will present their dissertation proposals, including rationale and background, aims, any data obtained to-date, and the approaches to be used in the future.
- More senior students will present a progress report each year. The goal is to up-date the department on the aims, progress, and work remaining.
- WHAT?** Important components to include in **all** student seminars:
- Introduction:** presentation of the biological background which leads to the question being addressed.
- Hypothesis:** clear statement of the BBQ (big biological question) and/or your working hypothesis
- Specific Aims:** each specific aim should be presented. For each aim, the student should be certain to note any changes made to the plan, discuss progress and conclusions to-date, note any problems and efforts to circumvent them, and describe briefly future experiments left to perform.
- Summary:** restate progress to-date on all aims. Provide general conclusions and implications. What progress has been made in addressing the BBQ?
- HOW?** Students should present a clear, concise seminar which has been practiced first with the mentor!
- Slides should be carefully designed and checked ahead of time for visibility. Avoid the use of too much information on a single slide, print that is small and hard to read and colors that are difficult to discern on the background.

**Cellular and Structural Biology Graduate Program  
Laboratory Rotations**

In fulfillment of the degree requirements for the Ph.D., I plan to rotate in the following three laboratories:

Name of Faculty Member	Dates
1. _____ (please print)	_____
2. _____ (please print)	_____
3. _____ (please print)	_____

Changes in your planned rotations are acceptable and may be made after consultation with the Student Advisor.

Name: \_\_\_\_\_  
(please print)

Signature: \_\_\_\_\_

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

**Please return this form to Ms. Jo Gail Stark.**

**Cellular and Structural Biology Graduate Program  
Mentor Selection Form for Ph.D.**

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

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

I would like to request COGS approval of Dr. \_\_\_\_\_ as my ***Proposed*** Supervising Professor.

**Mentor agreement:**

I am willing and able to serve as the Supervising Professor for \_\_\_\_\_.  
(name of student)

I recognize that it is my responsibility to provide stipend support for this individual beginning on September 1<sup>st</sup> of this ***academic*** year.

\_\_\_\_\_  
Signature, Supervising Professor

\_\_\_\_\_  
Account number to be charged beginning September 1<sup>st</sup>.

**Cellular and Structural Biology Graduate Program**  
**Mentor Selection Form for M.S.**

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

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

I would like to request COGS approval of Dr. \_\_\_\_\_ as my ***Proposed*** Supervising Professor.

**Mentor agreement:**

I am willing and able to serve as the Supervising Professor for \_\_\_\_\_.  
(name of student)

\_\_\_\_\_  
Signature, Supervising Professor

Attachment G

**Department of Cellular and Structural Biology Graduate Program  
Evaluation of a Laboratory Rotation**

Student Name:

Faculty Name:

Inclusive dates of student's laboratory rotation:

Please comment on each of the following:

Was the student attentive and hard-working?

Was the student talented in the lab?

If the student requested to work in your lab, would you be willing to accept him/her?

Additional comments?

For the laboratory rotation, please give a grade of S (satisfactory) or U (unsatisfactory) below.

Grade \_\_\_\_\_

**Please address each of the questions above and return this form to Ms. Jo Gail Stark.**

**Department of Cellular and Structural Biology Graduate Program**  
**Evaluation by the Committee Members - M.S. Student**

Student Name:

Month/Year Started Program:

Date of Meeting:

Has thesis proposal been approved:

*The student should complete the information above and distribute forms to faculty at his/her scheduled committee meeting.*

---

**Committee member:** *Please comment on issues that particularly need improvement.*

Was the presentation thorough and understandable?

Is the thesis project feasible in a reasonable period of time?

Was an identifiable hypothesis presented?

Do the experiments appear to be well planned and address the hypothesis?

Is the work sufficiently thorough, timely, and valid to form a basis for publication?

Does the student have the appropriate command of the literature?

Are the student's responses to questions clear and to the point?

Have at least some experiments been done thoroughly and finished?

Is the student likely to graduate by the target date listed above?

Additional comments:

---

Committee Member Name:

Overall Evaluation of research progress (*Please circle*):

U      Unsatisfactory  
S      Satisfactory for this point in the program  
E      Excellent

*After each committee member has completed the evaluation, the student should collect the evaluations, review them with his/her supervising professor and then make two copies. One copy should be kept by the student; one copy should be given to Ms. Jo Gail Stark for inclusion in the student's file and the originals should be forwarded to the Student Advisor.*

**Department of Cellular and Structural Biology Graduate Program  
Evaluation by the Committee Members - Second Year Ph.D. Student**

Student Name:

Month/Year Started Program:

Date of Meeting:

*The student should complete the information above and distribute forms to faculty at his/her scheduled committee meeting.*

---

**Committee member: *Please comment on issues that particularly need improvement.***

For the first semester:

1. Is the student attentive and hard-working?
2. Has a dissertation project with a testable hypothesis been identified?
3. Have potential committee members been identified?
4. Is the student becoming acquainted with the literature appropriate for the project?
5. Does the student design experiments and include appropriate controls?

For the second semester:

1. Is there an identifiable experimental plan?
2. Is there an identifiable hypothesis being tested?
3. Is the project feasible?
4. Was there an adequate explanation as to why the experiments are being conducted?
5. Is the student well informed?
6. Were the student's responses to questions clear and to the point?

Additional comments:

---

Committee Member Name:

Overall Evaluation of research progress (*Please circle*):

- U      Unsatisfactory  
S      Satisfactory for this point in the program  
E      Excellent

*After each committee member has completed the evaluation, the student should collect the evaluations, review them with his/her supervising professor and then make two copies. One copy should be kept by the student; one copy should be given to Ms. Jo Gail Stark for inclusion in the student's file and the originals should be forwarded to the Track Student Advisor.*

**Department of Cellular and Structural Biology Graduate Program  
Evaluation by the Committee Members - Third Year Ph.D. Student**

Student Name:

Month/Year Started Program:

Date of Meeting:

Has preliminary exam been taken?

Has dissertation proposal been approved:

*The student should complete the information above and distribute forms to faculty at his/her scheduled committee meeting.*

---

**Committee member:** *Please comment on issues that particularly need improvement.*

Was the presentation thorough and understandable?

Does the student have the appropriate command of the literature?

Have at least some experiments been done thoroughly and finished?

Do individual experiments appear to be well planned with appropriate controls?

Does the student understand the limits of his/her experiments?

Is the dissertation project feasible in a reasonable period of time?

Are the student's responses to the questions clear and to the point?

Is the student applying personal initiative to the project?

Additional comments:

---

Committee Member Name:

Overall Evaluation of research progress (*Please circle*):

U      Unsatisfactory  
S      Satisfactory for this point in the program  
E      Excellent

*After each committee member has completed the evaluation, the student should collect the evaluations, review them with his/her supervising professor and then make two copies. One copy should be kept by the student; one copy should be given to Ms. Jo Gail Stark for inclusion in the student's file and the originals should be forwarded to the Track Student Advisor.*

**Department of Cellular and Structural Biology Graduate Program**  
**Evaluation by the Committee Members - Fourth Year Ph.D. Student**

Student Name:

Month/Year Started Program:

Date of Meeting:

Has preliminary exam been taken?

Has dissertation proposal been approved?

Written progress:        Presented a paper or poster at national meeting?        \_\_\_\_\_

   Contributed to writing a paper or review?        \_\_\_\_\_

   Authored his/her own paper?        \_\_\_\_\_

*The student should complete the information above and distribute forms to faculty at his/her scheduled committee meeting.*

---

**Committee member: *Please comment on issues that particularly need improvement.***

Was the presentation done well?

Is the work sufficiently thorough, timely, and valid to form the basis for publication?

Is the student adequately focused on a specific plan for finishing the dissertation?

Has the student thoroughly considered the meaning of his/her results?

Is the student's depth of knowledge and facility to deal with problems characteristic of an expert in his/her chosen field?

Additional comments:

---

Committee Member Name:

Overall Evaluation of research progress (*Please circle*):

U        Unsatisfactory

S        Satisfactory for this point in the program

E        Excellent

*After each committee member has completed the evaluation, the student should collect the evaluations, review them with his/her supervising professor and then make two copies. One copy should be kept by the student; one copy should be given to Ms. Jo Gail Stark for inclusion in the student's file and the originals should be forwarded to the Track Student Advisor.*

**Department of Cellular and Structural Biology Graduate Program**  
**Evaluation by the Committee Members - Fifth (or beyond) Year Ph.D. Student**

Student Name:

Month/Year Started Program:

Date of Meeting:

Has preliminary exam been taken?

Has dissertation proposal been approved?

Written progress:        Presented a paper or poster at national meeting?        \_\_\_\_\_

   Contributed to writing a paper or review?        \_\_\_\_\_

   Authored his/her own paper?        \_\_\_\_\_

   Target date for graduation:        \_\_\_\_\_

*The student should complete the information above and distribute forms to faculty at his/her scheduled committee meeting.*

---

**Committee member:** *Please comment on issues that particularly need improvement.*

Was the presentation done well?

Is the work sufficiently thorough, timely, and valid to form a basis for publication?

Is the student adequately focused on a specific plan for finishing the dissertation?

Is the student's depth of knowledge and facility to deal with problems characteristic of an expert in his/her chosen field?

Is the student likely to graduate by the target date listed above?

Additional comments:

---

Committee Member Name:

Overall Evaluation of research progress (*Please circle*):

- U        Unsatisfactory
- S        Satisfactory for this point in the program
- E        Excellent

*After each committee member has completed the evaluation, the student should collect the evaluations, review them with his/her supervising professor and then make two copies. One copy should be kept by the student; one copy should be given to Ms. Jo Gail Stark for inclusion in the student's file and the originals should be forwarded to the Track Student Advisor.*

## Attachment H

### **Format for the Thesis/Dissertation Proposal**

The description of the proposed work should not exceed five double-spaced typewritten pages, using text not smaller than 11-point type. It should be written for a general scientific audience, being careful to avoid the use of jargon. The proposal should specify 1) the background and significance (one-two pages); 2) the hypothesis to be tested, 3) the specific aims, which includes a short rationale and strategy to carry out each aim (~one page), and 4) the experimental design including a general description of the methods and techniques to be utilized, predicted outcomes as well as alternative strategies (~two pages). A brief bibliography of literature references that supports the text of the proposal should be included. The bibliography will not be counted in the five page limit.

## **SCHEDULING FOR FINAL ORAL EXAMINATIONS AND BINDING OF DISSERTATIONS AND THESES**

There are certain procedures that must be followed for a student to complete in any given semester. The following is a suggested schedule for completion of the dissertation or thesis:

- Step 1. Submit to the Supervising Professor and Supervising Committee a final draft of the Dissertation or Thesis. Allow 3 weeks for review and comments.
- Step 2. Submit to the Graduate Office a final draft of the Dissertation or Thesis. Allow three weeks for review and comments.
- Step 3. Submit to the Graduate Office 15 days before the scheduled date of the final oral examination.
  - \* Request for Final Oral Examination
  - A room should be reserved by the mentor with Room Scheduling (**x7-2655**).
  - \* 20 copies of the abstract and Vita stapled together
- Note:** Allow sufficient time between the Final Oral Examination and the Graduate Faculty Council meeting, at which the completion of degree requirements and Final Oral Report will be presented, to complete any changes or corrections to the Dissertation or Thesis that are required by the Supervising Committee or Committee on Graduate Studies.
- Step 4. Submit to the Graduate Office five days prior to the Graduate Faculty Council meeting at which the degree completion will be reported.

\*Report on Oral Examination signed by all members of the Supervising Committee and Chair of COGS.

\*Approval Page of Dissertation/Thesis signed by Supervising Committee and COGS Chair.

\*A copy of the FINAL version of the Dissertation or Thesis.

The outcome of the final oral examination and fulfillment of degree requirements must be reported to and approved by the Graduate Faculty Council at its monthly meeting prior to the end of the semester. The Graduate Faculty Council meets on the second Friday of each month.

Prior to leaving this institution, the items listed below must be completed. This is in order to assure that records are complete and the Dissertation or Thesis can be bound as required by this institution and in accordance with the student's wishes.

- \* Binding instructions. These are conveyed in person to the Graduate Dean's Office. At this time a fee slip or memo is issued to pay for the binding of the Thesis or for the binding and Microfilming of the Dissertation. Payment is made at the Student Loan desk in the Accounting Office. If the department pays for the binding of any copies, an account number will be needed.
- \* Copyright Disclaimer Form
- \* List of Colleges/Universities Attended
- \* Administrative Clearance (All students must complete this form)
- \* Microfilm Agreement Form (Doctoral candidates only)
- \* Survey of Earned Doctorates (Doctoral candidates only)

A student may appoint a representative to attend to the details of payment and pickup of the bound copies.

**APPROVAL FORM FOR THESIS PROPOSAL**

**This form must be signed by all local members of your Thesis Committee.**

The member of the committee who is located outside of the Health Science Center need not sign below, but he/she should be sent a copy of the proposal once it is approved by COGS.

We, the members of the Thesis Committee of \_\_\_\_\_, have seen, read, and approved her/his Thesis Proposal. We agree that it is ready for presentation to the Committee on Graduate Studies of the Cellular and Structural Biology Program.

\_\_\_\_\_  
(Mentor)

\_\_\_\_\_  
(Member, C&SB)

\_\_\_\_\_  
(Member, C&SB)

\_\_\_\_\_  
(Member, C&SB - optional)

\_\_\_\_\_  
(Member, Outside C&SB)

**THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO**  
**PETITION FOR ADMISSION TO CANDIDACY**

For the degree of

**MASTER OF SCIENCE**

\_\_\_\_\_  
Name of Student

\_\_\_\_\_  
Graduate Program

**UTGSBSSA Academic Record**

Entered program (Initial term): \_\_\_\_\_ 20\_\_\_\_

Total no. semester hours completed: \_\_\_\_\_ Cumulative GPA: \_\_\_\_\_

All required courses completed:  Yes  No

**Qualifying Examinations**

- Examinations waived
- Examinations passed:

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

Oral \_\_\_\_\_  
Date

Signatures of Qualifying Examinations Committee:

\_\_\_\_\_  
Chairman  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Research Experience**

Potential for productive and independent investigations substantiated by:

Signature(s) of student's research advisor(s):

\_\_\_\_\_

**Admission to candidacy recommended by Committee on Graduate Studies:**

\_\_\_\_\_  
COGS Chairman

\_\_\_\_\_  
Date

**APPROVED:**

\_\_\_\_\_  
Dean

\_\_\_\_\_  
Date



THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER, SAN ANTONIO

PETITION FOR ADMISSION TO CANDIDACY

For the degree of

DOCTOR OF PHILOSOPHY

\_\_\_\_\_  
Name of Student

\_\_\_\_\_  
Graduate Program

**UTGSBSSA Academic Record**

Entered program (Initial term): \_\_\_\_\_ 19\_\_\_\_

Total no. semester hours completed: \_\_\_\_\_ Cumulative GPA: \_\_\_\_\_

All required courses completed:  Yes  No

Qualifying Examinations

Examinations passed:

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

Oral \_\_\_\_\_  
Date

Signatures of Qualifying Examinations Committee:

\_\_\_\_\_  
Chairman

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Research Experience**

Potential for productive and independent investigations substantiated by:

Signature(s) of student's research advisor(s):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Admission to candidacy recommended by Committee on Graduate Studies:**

\_\_\_\_\_  
COGS Chairman

\_\_\_\_\_  
Date

**APPROVED:**

\_\_\_\_\_  
Dean

\_\_\_\_\_  
Date



# Graduate School of Biomedical Sciences

The University of Texas Health Science Center at San Antonio

## RECOMMENDATION FOR APPROVAL OF DISSERTATION RESEARCH PROPOSAL AND SUPERVISING COMMITTEE

*Please submit this form with a computer file containing your proposal to the Office of the Graduate Dean. The computer file should be in RTF, HTML or PDF format.*

*(Please type all information below)*

Candidate	Degree	Program	Social Security #
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The Committee on Graduate Studies of the program has reviewed and agreed to recommend approval by the Dean of the dissertation research proposal entitled:

Title of Proposal

to be conducted by the above candidate in partial fulfillment of the requirements for the degree. Signatures are required for all Committee members except the External Member. **By signing, you attest that you have read and approved the final version of the dissertation proposal and you agree that the proposed work is appropriate for a PhD dissertation project.**

Chair and Supervising Professor (please type)	Dept./Rank	Signature	Institution
Member (Program) (please type)	Dept./Rank	Signature	Institution
Member (Program) (please type)	Dept./Rank	Signature	Institution
Member (Program) (please type)	Dept./Rank	Signature	Institution
HSC Member (Outside Program) (please type)	Dept./Rank	Signature	Institution
External Member (Outside HSC) (please type)	Dept./Rank	(Signature not required)	Institution

### Submitted by the Committee on Graduate Studies

Signature, Chair of COGS

Date

### Approved

Signature, Associate Dean of the Graduate  
School of Biomedical Sciences

Date