ACADEMIC AND OPERATIONAL POLICIES

OF THE

CELL BIOLOGY GRADUATE PROGRAM

Revised, March 2019
DISCLAIMER

This Program information booklet is not intended as a formal publication of The University of Texas Medical Branch. It is for Departmental and Program use only and, as such, should not be relied upon as the sole source of information regarding the Graduate Program. Refer to the Graduate School of Biomedical Sciences at Galveston Policies and Operations Manual for specific policy details and to the UTMB General Catalog for general information and a brief overview of the Cell Biology Graduate Program.

While every effort has been made to assure accuracy and timeliness of this Policy and Procedures, the University of Texas Medical Branch at Galveston is not responsible for any misrepresentation which might arise through error or its' preparation or through failure to give notice of changes in requirements, policies, tuition and fees, course offerings and other matters affecting students or applicants. The provisions of this booklet do not constitute an irrevocable contract between any student or applicant for admission and the University of Texas Medical Branch at Galveston.

The University reserves the right to withdraw courses at any time, to change fees and tuition, academic calendars, curricula, degree requirements, graduate procedures and any other requirement affecting students. Changes will become effective whenever the proper authorities so determine and will apply to both prospective students and those already enrolled.
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I. Organizational Framework

A. Cell Biology Graduate Program Faculty

1. The Cell Biology Graduate Program is the responsibility of the Cell Biology Graduate Program Faculty.

2. Membership in the Cell Biology Graduate Program requires:
   a. Membership in the Graduate Faculty of The University of Texas Medical Branch Graduate School of Biomedical Sciences.
   b. Willingness and capability to supervise Ph.D. candidates.
   c. Participation in teaching graduate courses in the Program.
   d. Willingness to participate on Program committees.

3. Faculty interested in becoming a member of the Program will submit their curriculum vitae and a cover letter summarizing their credentials and potential contributions to the Program Credentials Committee. A public seminar is then scheduled where the applicant presents a talk on their area of research/expertise. In the case of senior investigators, however, the requirement for scheduled seminar presentation can be waived at the discretion of the Program Director and the Chair of the credentials committee. The Credentials Committee will subsequently review the applicant’s credentials and recommend the individual for full or associate membership to the Program Faculty. Associate members are generally junior faculty with limited teaching and/or mentoring experience. Associate members have no voting rights, and if an Associate member wishes to mentor a student, a full member must co-mentor the student. The individual will be admitted as a full or associate member after a simple majority of the Faculty vote positively. Final approval is given by the Dean of the Graduate School of Biomedical Sciences.

4. Other faculty may participate in the Program as Special Members of the Graduate Faculty at the discretion of the Credentials Committee and the Program Director. Special members are appointed to serve on dissertation committees or, in some cases, mentor students within the Program. Special Members have no voting rights and are not obligated to contribute to teaching or service within the Program.

5. Specific responsibilities of the Graduate Program Faculty include:
   a. Recommendations concerning membership.
   b. Recommendation of students for admission to the Program.
   c. Qualifying exams and recommendations for admission of students to candidacy.
   d. Recommendations for changes in graduate courses.
e. Designation of responsibilities for dissertations.
f. Recommendations for dismissal of students from the Program.
g. Service on Program committees.
h. All program faculty are expected to serve the core responsibilities of the program including: 1) serving as a primary mentor, 2) serving as a co-mentor of a graduate student 3) service on a standing committee 4) teach in the required or elective courses taught by the Cell Program, 5) Directing/developing a course for the program.

B. Graduate Program Director

1. The Cell Biology Graduate Program Administrative Officer will be the Cell Biology Graduate Program Director.

2. The Program Director will be elected by the Cell Biology Graduate Program Faculty from a slate of candidates submitted by the Graduate Dean. The candidates will be selected by the Graduate Dean from nominees solicited by the Dean. The Director will serve a two-year term and may be re-elected.

3. The responsibilities of the Graduate Program Director include:

   a. General administration of the Program, including **ex officio** membership on the Program committees.
   b. The development of the Program.
   c. All matters pertaining to the advising of graduate students in the Program with the assistance of the Curriculum and Advisory or Executive Committees, if need be.
   d. In conjunction with the Examination Committee, maintaining archival records of student performance during and for some reasonable time after their tenure in the Program.
   e. In conjunction with the Curriculum and Advisory Committee, monitoring the progress of each student during the first several terms to ensure early detection of problems.
   f. In conjunction with the Admissions Committee, aid in the recruitment, selection, and enrollment of new graduate students.
   g. Coordination of the review of the Program, as requested by the Graduate Dean.

4. In the absence of the Program Director, the Executive Committee will appoint an Acting Program Director.

C. Meetings

1. Meetings of the Cell Biology Graduate Program Faculty will be called by the Program Director, either on his/her initiative or at the request of a Committee Chairman. A quorum will consist of 1/3rd of the membership plus 1.

2. Two student representatives will be chosen by their classmates to attend
Cell Biology Graduate Program Faculty meetings. These students should include one pre-candidate (before taking the Qualifying Exam) and one post-candidate. Student representatives will be asked to leave the meeting when the business-at-hand may be construed as a conflict of interest for the student representatives; such cases would include consideration of student applicants to the Program, academic performance of students and application of faculty to the Program Faculty.

D. Policy Decisions

Policy matters will be decided by the Cell Biology Graduate Program Faculty. Proposals for policy changes may be made by the Program Director, committees, individual members, or students. Normally, policy proposals should be acted on first by the appropriate committee; often this committee will be asked to review the proposal and then make a recommendation to the full Faculty. Written notification of the proposed policy change(s) will be provided to the Program Faculty at least two weeks before the meeting at which the change is to be voted upon. The policy/policies can be changed by a two-thirds majority vote of a quorum of the Program Faculty. Or, policies can be changed by a two-thirds majority vote of a quorum by email ballot.

E. Standing Committees

1. Elections
   Membership on all standing committees will occur every two years (same year as election of the Program Director), and the term for each member is two years. Only members of the Cell Biology Graduate Program Faculty may serve on or vote for membership on standing committees of the Program. No individual can serve concurrently on more than one of the following standing committees: Curriculum, Promotions and Examination, Admissions and Recruitment, or Credentials. As a member of CBGP faculty, all members will be required to either serve on one of the standing committees, or mentor/co-mentor a rotating/graduate student or direct/teach a course developed for teaching and enhancing the training of CBGP students. A member can also volunteer to represent the program as a BBSC representative or a GSBS representative.

2. Executive Committee
   The Executive Committee will consist of the Graduate Program Director, the Chair of each of the standing committees (Curriculum, Promotion and Examination, Admissions and Recruitment and Credential) and two members elected from the full Faculty. One of these should represent the junior Faculty, and one should represent the senior Faculty. The Graduate Program Director will chair the Committee. The Executive Committee will:

   a. Assist the Program Director in making overall policy recommendations to the full Faculty.
   b. Coordinate the activities of each of the standing committees and route policy proposals to the appropriate committee for their
c. Serve as the Nominating committee once every two years.
d. Coordinate votes on policies and membership and call meetings of the full Faculty, as needed.
e. Elect a chair, who will serve in place of the Program Director when needed.

3. **Admissions and Recruitment Committee**
The Admissions Committee will consist of at least five members, one of which will serve as Chair of the committee. The Admissions Committee will:

a. Comprehensively review all applications to the GSBS and make recommendations for admission to the CBGP.
b. Interview applicants by phone and, when possible, in person.
c. Actively recruit applicants offered admission to the Program, with assistance of the Program Director.

4. **Curriculum and Advisory Committee**
The Curriculum and Advisory Committee will consist of at least five members, one of which will serve as Chair of the committee. The Curriculum and Advisory Committee will:

a. Elect a volunteer member to serve as a CBGP representative to the BBSC Curriculum Committee.
b. Elect a volunteer member to serve as a CBGP representative to the GSBS Curriculum Committee.
c. Make recommendations concerning development and approval of new courses.
d. Monitor and evaluate courses, using student and faculty feedback.
e. Make recommendations for modifications or deletions of courses.
f. Be responsible for the Student Seminar Program or, delegate someone to be responsible.

5. **Credentials Committee**
The Credentials Committee will consist of at least five members, one of which will serve as Chair of the committee. The Credentials committee will:

a. Review the credentials of candidates for the Program Faculty and recommend them for full, associate, or special membership.
b. Actively seek investigators who will be an asset to our program and recruit them to membership.
c. Arrange for a seminar by the Faculty candidate to the CBGP faculty and students. Senior Investigators, with a well-established record of extra mural funding and mentoring students, who are being recruited to the program, will be encouraged to give a seminar but will not be required to give a seminar.
d. The CBGP faculty will be requested to vote on the acceptance of the candidate as a member of the CBGP faculty, based on the recommendations of the committee. A ¾ majority vote to accept, by
the required quorum for the program (1/3 of all faculty members), will be required to accept the faculty candidate as a member of CBGP faculty.

e. The program director will convey the outcome of the vote to the candidates, CBGP faculty and the Graduate School Dean’s office

6. **Promotion and Examination Committee**
   a. The Chair of the Examination Committee will be recruited by the Program Director and/or the Nominating committee. Directors of required courses in the CBGP program will serve as members of this committee. The Committee members will recruit 2 examiners for each student who is either, 1) presenting or submitting their dissertation proposal as part of the academic skills course (in the fall semester of year 2), or 2) who is submitting their proposal as part of their written exam for candidacy purposes (usually before end of year 2 in the graduate program). The examiners will be chosen based upon their expertise in the topic covered in the examination by members of the committee, with the assistance of the Program Director. The Examiners recruited for grading the oral and written performance of students in the academic skills course will grade as per the format provided to them by the program coordinator, specific for this course. Examiners recruited for examining the proposals submitted by the students for candidacy purposes will:

   1. Provide an NIH-style written critique and score of the examination.
   2. Discuss the examination at a study section meeting with the Examination committee
   3. Determine whether the student passed the examination and provide recommendations for revision (if any).
   4. When deemed necessary, review the revised examination.
   5. Provide recommendation to the student’s Oral Examination Committee (consisting of primary mentor and supervisory committee).

7. **Ad Hoc Committees**

   The Cell Biology Graduate Program Director will appoint the Chair of the Ad Hoc Committees, formed for specific purposes and for limited terms.

   a. One *Ad Hoc* Committee is the *Nominating Committee*. The purpose of the Nominating Committee will be to propose a slate of candidates for the standing committees. The Program Director will recruit and appoint active members to the Nominating Committee, who will be encouraged to become Chairs/members of specific committees.

   b. Other *Ad Hoc* Committees may be formed at the discretion of the Program Director to assist in making specific recommendations in response to the needs of individual students, especially during their
early phases in the Graduate Program when there is no functioning Supervisory Committee. Such a Committee may be formed to help a student on academic probation or to examine a student who has not performed satisfactorily on the first phase of the Qualifying Examinations.

c. Ad Hoc Committees concerned with reviewing and improving the structure and function of the Graduate Program may also be formed, as needed, at the discretion of the Program Director.

II. Admissions Policy

There are two mechanisms for a student to gain admittance to the CBGP (both of which require a completed application to be submitted to the GSBS and approval of the Admissions Committee):

A. General

Admittance into the CBGP program (U.S. citizen or permanent residents only). The first year of study is funded by the GSBS while the student finds an appropriate laboratory to perform dissertation research.

B. Direct Admission

Direct admittance into a funded laboratory (U.S. and foreign applicants). All costs, including stipend, are funded by a pre-identified mentor. Alternatively, an applicant may choose to pay all costs associated with their first year of study.

For students with an advanced degree (MS, or Medical Doctoral degree, not Bachelor of Medicine) application procedures are the same as for other students. However, those students with an M.D. degree may be able to substitute GRE scores with MCAT or USMLE scores (at the discretion of the GSBS and Program Director). If admitted, the transcripts will be evaluated for courses equivalent to the required BBSC & CBGP courses and appropriate courses waived. The required 6 hours of elective courses, 1 hour credit for seminars, and 4 hours of Advanced Academic Skills course will not be waived, unless appropriate courses (or experience) can be identified. Students will be required to take and pass the Qualifying examination and Proposal defense to be admitted to Candidacy, and will be required to defend their Dissertation.
III. Course of Study for the Cell Biology Graduate Program

A. Performance

1. The student must obtain a B or better on all courses in order to maintain acceptable standing in the Graduate Program. A GPA below a B average (3.0) will cause the student to be placed on academic probation. This deficiency must be removed during the next semester, or the student will be dismissed from the Graduate School.

2. A student must receive a B or better in all Cell Biology and Biomedical Basic Science Curriculum (BBSC) core courses. A grade of C or below may require that the student retake the course.

B. Curriculum

Credit hours a student takes/year while enrolled in CBGP is 9 hours, and must be taken in order to obtain and maintain a State-funded stipend.

The curriculum emphasizes the development of research, teaching and communication skills. The didactic curriculum is expected to be completed by the end of fall semester in year 2 of study.

YEAR 1 REQUIRED COURSES

All students are expected to take the following courses (with the exception of those listed as optional):

Basic Biomedical Science Curriculum Requirements for those entering fall 2019:

YEAR 1 – BBSC

BBSC 6043 Laboratory Rotations (1 in fall during 2nd 8-weeks; 2 in spring; both 8-weeks. Total of three minimum with no more than two in one lab)
BBSC 6129 Responsible Conduct in Biomedical Research (fall, spring, summer)
BBSC 6130 Small Sampling of Big Data (summer – 1st 8 weeks)
BBSC 6131 General Laboratory Safety (fall – 1st 8 weeks)
BBSC 6222 Biostatistics (spring term)
BBSC 6302 Cell Biology (fall term)
BBSC 6401 Biochemistry (fall term)
BBSC 6403 Molecular Biology and Genetics (spring term)

Specific to Cell Biology students:

CELL 6195 Seminar (must be take every term until completion)
### YEAR 2

#### Term I

**Fall**
- **Required**
  - CELL 6008 Laboratory Rotations OR
  - CELL 6097 Research (for students who have chosen the laboratory for dissertation research)
  - CELL 6195 Seminar (must be taken every term until completion)
  - CELL 6217 Advanced Academic Success Skills Part I
  - CELL 6218 Advanced Academic Success Skills Part II

**Recommended Electives**
- CELL 6207 Imaging in Biology
- CELL 6324 Teaching Gross Anatomy
- CELL 6701 Gross Anatomy

#### Term II

**Spring**
- **Required**
  - CELL 6008 Laboratory Rotations OR
  - CELL 6097 Research (for students who have chosen the laboratory for dissertation research)
  - CELL 6099 Dissertation (Expected to be in candidacy by spring or summer of year 2)
  - CELL 6195 Seminar

### Term III

**Summer**
- **Required**
  - CELL 6097 Research
  - CELL 6099 Dissertation (Each term after admission to candidacy)
  - CELL 6195 Seminar
  - CELL 6401 Cellular & Molecular Mechanisms in Health & Disease

**Recommended Electives**
- CELL 6401 Maternal-Fetal Reproductive, Biology, Physiology and Pathology (Biennially-Even Years)

### LATER YEARS

- CELL 6099 Dissertation (each term after admission to candidacy)
- CELL 6195 Seminar

**Students may choose other electives from other programs or the BBSC to total the 6 credit hours.**

**Additional electives or systems modules**
Student must complete six hours of electives before admission to candidacy. Additional electives may be taken as needed to strengthen areas of weakness or to provide background for research or teaching. The written and oral examination will generally be completed by the end of year 2, but preferably by the spring of year 2.

Any appeals for grading changes must be submitted to the instructors responsible for the writing and grading of the question within five business days after the return of the graded assessment to the student. The instructors must report any grade changes to the course director.
C. Required Coursework for the M.S. Program

The Cell Biology program does not admit into the M.S. Program.

The M.S. degree in Cell Biology is only for those individuals who, for academic or personal reasons, will not be able to proceed through the Ph.D. program. A decision about a terminal MS degree would normally be made at the time of the Proposal defense or the third year. A student who has failed the qualifying exam will not be allowed to progress to a terminal M.S. degree program. A terminal M.S. student must successfully defend a proposal and take at least 9 hours of Thesis. He/she may prepare a published manuscript in lieu of a thesis.

The Qualifying Examination and course requirements are the same for Master’s and PhD students.

D. Research/Thesis/Dissertation

The following required assessments are to be utilized each term by the Mentor(s) and/or Supervisory Committee Members to assist in determining a grade for the students.

The Cell Biology Graduate Program and the graduate school require that students write a one-page summary of the research activities they pursued during each term, whether enrolled for Laboratory Rotation (CELL 6008), Research (CELL 6097), Thesis (CELL 6098) or Dissertation (CELL 6099). This description of research should be typed and include the following:

- A brief statement of the objectives of the work or the problem studied
- Short statement on background or significance of the work
- Description of the methods employed
- Description of the results obtained, and
- Brief closing discussion of the relevance of the findings and/or future plans
- Any difficulties encountered should also be detailed.
- The REDCap on-line evaluation system is used. The student will forward their end-of-term report to their mentor and copy the coordinator. The student and mentor will meet to discuss the student report and grade. Once the mentor has completed the on-line evaluation, it will route directly to the student. Once the student has added comments and signed, the evaluation will route to the coordinator. The final evaluation is sent to the graduate school.
- Students will receive a grade of incomplete (I) if the mentor does not complete the required REDCap online evaluation.
E.  Seminars

The objective of this course are to expose students to a wide range of current research topics in cell biology, and to allow students to organize and present seminars in their own fields of interest. All Cell Biology Graduate Program students must register for seminar course every term, irrespective of their status in the program. In the term the student presents a seminar, the student will receive a letter grade from an assigned faculty member (Form A-Assessment of Ongoing Research Findings as Presented in Seminars.)

The journal club sponsored by the Society of Cell Biology (SoCB) is mandatory for all students, irrespective of the candidacy status. Students will receive credit for attending journal clubs. Students will be allowed a maximum of two absences per semester for attending the required (mandatory) seminars.

Pre-candidacy Students

By the end of each term, pre-candidacy students are required to attend 12 seminars. The 12 seminars include seminars in the following categories.

Cell sponsored seminars. All pre-candidacy students are required to attend all Cell student seminars, including oral qualifying exam presentations and oral defense presentations, and faculty candidate seminars. Students are also required to attend seminars of invited speakers, if the speaker has been invited by the Cell Program.

For cell student seminars, oral qualifying exams, oral defense presentations, and faculty candidate seminars, a sign in sheet will be posted on the door of the seminar room/auditorium. Students must sign in to be given credit for attending.

Seminars by experts in their field. Pre-candidacy students need to additionally attend other seminars, given by invited speakers, in the areas of their research interests.

A spreadsheet will be sent to you via email at the beginning of the term. This form should be completed by you. A faculty member who is present at the seminar must sign your spreadsheet as confirmation that you attended the seminar in the 2nd category.

Candidacy Students-On campus

While seminar attendance is still an essential part of training as a doctoral student, the student is not required to document 12 seminars per term. The student is required to attend all Cell student seminars, Faculty candidate seminars, and Cell program sponsored seminars by experts in different fields. A sign in sheet will be posted on the door. The student signature is required on
this sheet as proof of attendance.

**Candidacy Students-Off Campus**

Candidacy students who are off-campus are required to attend 6 seminars per term. A spreadsheet will be sent to the student via email at the beginning of the term. This spreadsheet should be completed by the student. The mentor at the off-site location should sign the spreadsheet confirming you have attended the seminars. One week before the end of the term, the completed form should be sent to the coordinator via email.

**Excused Absences for category 1 seminars (Cell student or Cell sponsored faculty/invited seminars)**

Excused absences will only be granted with pre-approval of the Course Director. An email to the course director (copy the program director and the coordinator) is mandatory in order to receive an excused absence. Failure to attend a required seminar, without an excused absence, will result in an unsatisfactory (U) grade. An excused absence does not count towards the required 12 seminars, if the student is a pre-candidacy student.

**Annual Seminar Requirement by Pre-candidacy Students**

Pre-candidacy students are required to give a seminar once a year, which describes the research project they have worked on either during a lab rotation or after the student has chosen a laboratory to work on their research proposal. The seminar given as part of the oral qualifying exam can serve as the required annual seminar in year 2. The term in which the student gives a seminar, the student will receive a letter grade (A-C) from assigned faculty/examination committee members.

Students will be excused from having to present a seminar in the academic year they give their oral exam/presentation for AASC course and/or for the oral qualifier.

**Annual Seminar Requirement by Students in Candidacy**

In candidacy, students are expected to present their research once per year, and can include the seminar given at the time of oral exam/oral defense. The annual seminars may be coordinated with a committee meeting. In the term the student presents their research seminar, the student will receive a letter grade (A-C).
IV. Examinations

A. Qualifying Examination-Ph.D. Student

1. Background and Format of the Qualifying Exam.

The qualifying exam remains an important landmark for graduate student education by examining their basic understanding of scientific concepts as well as their ability to integrate information and formulate hypotheses pertinent to their research area. As such, the written and oral components of a qualifying exam enable graduate students to develop a diverse set of skills that are considered essential for scientific success.

Beginning with the 2003-2004 academic year, a single written qualifying take-home exam was administered followed by an oral exam. The intent of the exam was to test a student’s general knowledge of Cell Biology as well as their ability to integrate information in a meaningful manner. In 2010, the Program Director in collaboration with the Program Faculty, changed the written examination format to one of a research proposal written in the style of an NIH grant. This change took effect for the 2012-2013 academic year. This change in format was in response to an effort to modernize the curriculum and develop critical grant writing skills, which are necessary for academic success.

The oral component of the qualifying exam will continue to directly examine the student’s comprehension of their proposed dissertation research. The goal is to have the student orally defend the work he/she proposes for a dissertation project. This includes their understanding of their research field, the significance of the questions being asked, as well as experimental design and expected results and conclusions. As such, the oral format builds on the skills developed during the written component, testing a student’s ability to think about how to apply research to a specific scientific question and their ability to communicate their findings to fellow scientists.

The proposal is to be written by the students in their own words. The student may discuss the proposal with others, show it to their mentor, and quote experts from the literature. Quotations from others must be clearly indicated, complete with reference, and should be kept to a minimum. The proposals will be run through a plagiarism detection software.

2. Written Examination

The research proposal which forms the basis for the written examination is due to the Cell Biology Graduate Program (CBGP) office soon after completion of Advanced Academic Success Skills I & II (CELL 6217/6218) (by the spring of year 2, but no later than summer of year 2) and should be written in the format of an NIH R01 grant (see
http://grants.nih.gov/grants/funding/424/SF424_RR_Guide_General_AdoBe_Verb.pdf). The page limits, writing style, and other aspects of writing an R01 proposal will be covered in Advanced Academic Success Skills course and reproduced in part below. If necessary, the Written Examination Committee can provide the students with a copy of a grant to use as a guide. The Written Examination Committee is charged to maintain a consistent standard in evaluating the quality of writing in all of the proposals. We recommend students obtain and examine the instructions in the link above in addition to the material covered in Advanced Academic Success Skills I & II.

B. Guidelines-Written Qualifying Examination Committee Members

The Written Examination Committee is charged with maintaining a consistent standard in evaluating the quality of writing in all of the proposals. Emphasis should be placed on evaluating the logic, clarity and organization of the writing. All proposals are to be sent to the Cell Biology Graduate Program office. The office will then distribute the exams to the Examination Committee.

Each proposal will be reviewed by at least two experts in the field who will be recruited by the Examination committee with assistance from the Program Director. All reviewers are given equal importance and will critique the grant independent of the others. A written critique will be prepared by each reviewer and these reviews will be discussed at a full committee meeting. There are three possible outcomes of the committee meeting:

1. Accept without revisions  
2. Accept with minor revisions (which will be re-reviewed only by the Chair of the examination committee and the Program Director)  
3. Major revisions required (requires re-review by the committee and submission of an introduction as described below)  
4. Fail

After this meeting, the program director will communicate the decision to the student, along with the written evaluations of the examiners, and provide a line of action to the student. In the event major or specific revisions are suggested by the reviewers, the student will be asked to meet with the reviewers and obtain guidance for improving and revising the proposal. The student, when submitting a revised proposal, especially those who need to do major revisions, will also include in the application a ONE PAGE introduction summarizing the revisions to the application. It is suggested that the format adhere to NIH guidelines regarding introductions.

If a revised version is submitted by a student who received a decision of ‘major revisions required’, the reviewers will review the revised proposal, write a second critique, and make recommendations to the full examination committee with regards to advancing the student to the Oral Qualifying Examination.

All students must successfully pass the written qualifying exam by a majority vote of the Examination Committee members in order to advance to the Oral Exam Committee.
Students who do not successfully pass the written exam will be referred to the Program Director, who will form an impartial *Ad hoc* committee to evaluate the student’s complete academic performance. They will make a recommendation regarding the student’s advancement to the oral examination. This should occur within a two week period.

**C. Guidelines-Dissertation Supervisory Professors (Mentors)**

The dissertation supervisory professor is expected to review the proposal and give advice as to how the proposal can be improved. However, they are not to write, edit or rewrite the proposal. The dissertation supervisory professor can make comments to the student on all aspects of the proposal such as the hypothesis, experimental methods, etc. It should be evident to the reviewers and the Examination Committee that the student is the sole writer of the grant proposal and that the appropriate credit/references were given for unpublished preliminary data.

**D. Guidelines-Oral Qualifying Examination**

The Oral Qualifying exam will be scheduled after the written proposal has been reviewed and approved by the reviewers and the Examination Committee. The Oral Qualifying Examination Committee will be formed by the student with the help of the dissertation supervisory professor, and approved by the Program Director. It is suggested that the Oral Qualifying Examination Committee also be the supervisory committee/dissertation committee, consisting minimally of three CBGP faculty (including the mentor), one UTMB faculty member who is not in the CBGP, and one faculty member from outside the university who is an expert on the subject of the dissertation proposal. The Oral Qualifying examination is expected to be completed by the end of the spring term, or latest by the end of the summer term in year 2.

A majority affirmative vote of the Supervisory Committee is needed to recommend that the student be advanced to candidacy. If the vote is affirmative, the recommendation that the student be advanced to candidacy will be forwarded to the Program Director, who will then forward the recommendation to the Graduate Dean. The student must complete the form *Application for Ph.D. Candidacy* for signature by the Program Director. The original Application for Ph.D. Candidacy and a copy of the completed/revised Dissertation proposal will be given to the coordinator within 1 month of the date of the oral exam for submission to the GSBS. At this time, the Program Director will also list the names of the individuals on the *Ad Hoc* Committee who have agreed to serve on the student's Supervisory Committee. After the Graduate Dean has ascertained that all of these members agree to serve (and approve of the student's proposal), a letter will then be issued from the Dean's office announcing advancement to candidacy. At this time, the members of the Supervisory Committee will be publicized.

If the performance at the oral qualifying exam is not satisfactory, the student is asked to revise the proposal according to the suggestions of the Ad Hoc supervisory committee. Another proposal defense is then scheduled; this decision is left to the discretion of the *Chair of the Ad Hoc Committee*. 
Finally, if a minority of Committee members do not approve the proposal, or portions thereof, their vote will be officially recorded with the Dean’s office unless the student makes the needed changes before advancement to candidacy is announced. Usually, these problems are settled more informally at the student’s proposal defense, or in private meetings with individual members of the Committee.

Faculty will grade the written proposal using **Form B: Written Qualifying Exam/Dissertation Proposal**. Faculty will grade the oral examination using the **Form C: Oral Qualifying Exam (for completion by committee members)** and **Form D: Oral Qualifying Exam (for completion by committee chair)**. These forms will be turned into the coordinator immediately after the examination process.

### E. Candidacy

Passing grades for the written and oral components of the qualifying exam fulfills the qualifying requirements for the Cell Biology Program. A list of faculty who will serve on the Dissertation Supervisory Committee must be submitted with the Application for Ph.D. Candidacy. The Dissertation Committee should include: the research advisor, two other members of the UTMB faculty in the Cell Biology Program, one graduate school faculty member who is in an area of research vastly different from that of the Research Advisor (preferably faculty from a different program) and an external examiner who is selected by the student with input from the student’s research advisor. The student will be advanced to Ph.D. candidacy for the Doctoral Degree following the recommendation of the Director of the Cell Biology program and the completion of the necessary paperwork by the Graduate School Office. A letter of confirmation is then sent to the student directly from the Dean of the Graduate School.

After admission to candidacy, the Ph.D. student must register for Dissertation and the M.S. student must register for Thesis. A dissertation is required of all Ph.D. students and a thesis or equivalent publication, is required of all M.S. students. In both cases, the work must be an original contribution to the literature based on independent scientific investigation. The student is encouraged to publish their Dissertation findings in one or more peer-reviewed, scholarly journals.

As a Ph.D. candidate, the student must meet with their Supervisory dissertation Committee at least once each year to review progress. A brief written report and/or PowerPoint presentation of progress, proposed work and plans for publications is prepared by the student before each of these meetings and distributed to the Program Coordinator and members of the Supervisory Committee at least 14 days prior to the date of each meeting. Submitted manuscripts AND abstracts submitted for presentation at International meetings should also be distributed. The Supervisory Committee continues to guide the student's research and assess their progress. The Chair of the Supervisory Committee (can be the primary mentor), will summarize the results of each meeting in writing to the Program Director within 1 week of the meeting. The summary will include student progress, a summary of committee responses, remaining proposed requirements and a timeline for graduation using the form: **Form E: Ongoing Research Findings Assessment**. This form must be completed by the attending Supervisory Committee members at each of the yearly Dissertation Committee meetings and turned into the Program Director with the Meeting report.
F. Final Oral Examination (Defense of Dissertation or Thesis)

1. The Dissertation must be written in a format acceptable to the Graduate School of Biomedical Sciences. The Dissertation is a scholarly work that documents the student's novel research accomplishments, independence and critical thinking skills.

2. Copies of the dissertation or thesis will be made available to the Supervisory Committee in sufficient time prior to the final oral examination to enable the members of the Supervisory Committee to evaluate the contents. This time is normally 10 working days to 1 month.

3. As a part of the final oral examination, the candidate will present a formal, public seminar on his/her completed Dissertation research to faculty members, postdoctoral fellows and the scientific community.

4. Members of the students Supervisory Committee are responsible for reading, discussing and approving the Dissertation in the context of novel and significant scientific content, clarity of writing, and the student's ability to demonstrate critical thinking skills. Successful completion of the defense is indicated by signatures of the Supervisory Committee on the report page of the dissertation or thesis and the report of the final oral examination. **Form F: Final Dissertation Defense—Written (must be completed by each member of the Dissertation Committee)** and **Form G: Final Dissertation Defense—Oral (to be completed by chair on behalf of Dissertation Committee)**. The Committee Chair will give the completed forms to the Program Director.

5. Before graduation, final approval of the dissertation or thesis is made after scrutiny in the office of the Graduate Dean. Therefore, if the goal is to graduate in the spring (May), careful attention must be made to deadlines and dates so that there is ample time for correction of the dissertation or thesis. It is worthwhile to consult the Graduate Office for help as the document is prepared to ensure that all standards are met.

V. Specific Student Concerns

A. Stipends

State-funded stipends will normally be awarded as they are available at the time of admission and continued throughout the first 16 months of a student's program, provided that the student makes satisfactory progress. Following the first year, the Supervisory Professor will be responsible for obtaining the student's stipend and tuition from grants or another source. Students are encouraged to apply for fellowships from Institutional training grants or independent fellowships from NIH and other sources.

B. Performance

The student must maintain a B (3.0 average) or better in all semesters in order to be in satisfactory standing in the Cell Biology Graduate Program. An overall
average of B or better must be achieved before the student can be admitted to candidacy and before the student can graduate. Failure to maintain a 3.0 average for one semester places the student on academic probation. Failure to achieve a 3.0 average for two semesters is grounds for dismissal from the Cell Biology Program and the Graduate School. Students entering the program fall 2014 and later must apply for external funding.

C. Supervisory Professor

A student selects a Supervisory Professor as he/she is admitted to candidacy. To assist in selecting an appropriate mentor, the students are encouraged to spend time in the laboratories of different faculty. A close working relationship develops for 2-3 years, and thus, the choice should be made carefully. Factors to consider in making the choice, in addition to the mentor, are the availability of a supportive network of staff and expertise. The Supervisory Professor must be a member (or Special Member) of the Graduate Program in Cell Biology and must communicate his/her willingness to serve in the role. He/she must also support the student's proposed research plan. A student may change his/her Supervisory Professor without prejudice to his/her standing in the Program.

D. Languages

No foreign language will be required. However, a given student may benefit by knowledge of one or more foreign languages, as well as computer programming languages. The Program reserves the right to require those deficient in the English language to take courses or tutoring. Because communication in both the verbal and written form is vital to the success of academicians, efforts will be made to train the student by exposing him/her to opportunities to speak and write.

E. Teaching and Communications Skills

Upon completion of this graduate program, many students will enter a career in which experience in both teaching and research will be important. Training in the presentation of basic scientific information and research findings are essential for a successful career. Therefore, students will be expected to gain experience in communicating scientific ideas through core course work, and experiences in the laboratories and scientific meetings.

Note: The job market for individuals with teaching skills in Gross Anatomy is excellent, and therefore, the graduate student is invited to take Gross Anatomy as an elective in either the fall of year 1 (only allowed for students who have tested out of the required BBSC courses 6401 and 6302 in the fall of year 1) or in the fall of Year 3, and follow that with a term of teaching one or more Gross Anatomy courses. However, this teaching must not interfere with the research program. To be permitted to teach in a course, the following requirements must be met:

(a) The student must have achieved a grade of B or better, in a similar course.
(b) The students must have maintained satisfactory academic standing (3.0 or better).

(c) The Supervisory Professor must approve this decision.

(d) The student should appreciate that teaching will delay their research and, therefore, it is appropriate to obtain alternate funding for the semester he/she teaches.

Teaching assistantships may be available for limited period in later years, if the student has elected to receive training in Gross Anatomy or Neuroscience.

VI. Training in Conjunction with the M.D./Ph.D. Program

A. The Cell Biology Graduate Program welcomes the opportunity to train students in the M.D.-Ph.D. combined degree program who wish to pursue doctoral work in Cell Biology. It is anticipated that they will enter the Ph.D. portion fulltime after the first 2 years of Medical School. A research rotation will be taken in the spring of the first year of Medical School (during the break between semesters) to accelerate their choice of mentors. It is anticipated that the time required for the Ph.D. degree will be 24-36 months from the time they enter fulltime graduate studies.

B. After entering our program the M.D./Ph.D. student should take:

Year 1
1. Seminar
2. Laboratory Rotations/Research
3. Electives and modules as needed to fulfill track requirements (total 6 hrs).

Year 2
1. Seminar
2. Academic Skills
3. Cellular & Molecular Mechanisms in Health & Disease
4. Qualifying Exam
5. Research

C. Upon being admitted to candidacy, the M.D.-Ph.D. student should be able to focus on the dissertation research and complete the research and dissertation during years 3 and 4 in the Cell Biology Program.