

## **GRADUATE PROGRAM REQUIREMENTS**

### **Dept. Anatomy & Structural Biology Albert Einstein College of Medicine**

All graduate students at Einstein are in the Sue Golding Graduate Division of Medical Sciences, and there is extensive interaction at all levels between members of different departments. Ph.D. degrees are granted by each individual department and the requirements of different departments vary slightly. The graduate program of the Department of Anatomy and Structural Biology has features that are unique among the AECOM departments. These are designed to equip the student with a broad base of fundamental knowledge in cell and molecular biology suitable for a research career in academia or industry. The department chooses students for admission who are strongly committed to research careers in cell and molecular biology and who seek special training with one of the members listed in this brochure.

As described in more detail below, a typical graduate career lasts about 5 years. In addition to taking classes, first year students can rotate through laboratories in any basic science department in order to select a thesis advisor. Students choosing an advisor in the Department of Anatomy and Structural Biology are encouraged to work in any of the laboratories of the department to learn specific techniques, as the department has an open door policy by all investigators. During the second year, students begin exploring possible thesis projects in their home laboratory as well as completing classwork. At the end of the second year, a qualifying examination determines the readiness of the student to begin thesis work. Passing the qualifying examination admits a student to candidacy for the Ph.D., leading to full time research on the thesis topic. Upon completion of research (about three years after passing the qualifying examination), the thesis work is written up and presented to a thesis examination committee. Successful completion of the thesis examination results in the student being awarded a Ph.D. in Biological Sciences.

#### **I Admission Requirements**

Students are admitted to the Sue Golding Graduate School and to the department based on the following credentials:

1. GRE scores
2. Letters of recommendation (minimum of three)
3. Transcripts
4. Essay of career goals
5. Personal interview, if possible

MSTP students / Alternate Path students are admitted with the advisor's agreement and similar rules apply for this program as for the graduate program.

#### **II Courses**

The Department requires that students take Biochemistry, Molecular Cell Biology, Quantitative Skills for the Biomedical Researcher, Responsible Conduct of Research, and three electives for a minimum of 21 credits. Students are expected to participate in the ongoing Departmental Seminars, Retreats and laboratory forums. The Department

encourages students to choose Histology as one of the electives (either in the summer MSTP course or in the fall). Students who have passed Histology can then acquire teaching experience by teaching the course as a laboratory instructor. A supplementary stipend is provided for teaching the course. Graduate students are expected to pass all required coursework before proceeding to the qualifying examination.

### **III Advisory Committee**

The role of the Advisory committee is to help in the choice of courses to be taken and to oversee that academic and research progress is satisfactory. The Advisory Committee consists of four to five faculty members, at least one from within the department (primary or secondary) in addition to the mentor. The composition of the Advisory committee can be changed as appropriate and must be approved by the thesis advisor and the Anatomy and Structural Biology Graduate Committee.

After students have declared a lab in the Anatomy and Structural Biology Department, they must assemble an Advisory Committee and have that committee approved by the Anatomy and Structural Biology Graduate Committee by November 30th of the first year in the department. The student must have an Advisory Committee meeting by the end of February of that academic year.

The Advisory Committee will meet at least once a year during the student's second and third academic years. From year four and on, the student will meet twice a year with his/her Advisory Committee. The student is required to prepare a one-page progress summary for the yearly meeting. This summary should be handed out to each committee member one week prior to the meeting. At the beginning of the meeting the student will have the opportunity to talk to the Advisory committee members in the absence of the thesis advisor. Subsequently the student will briefly leave the room. The committee must forward a report of the student's progress to the chairperson of the Anatomy and Structural Biology Graduate Committee. Continued enrollment in the program is predicated on satisfactory progress, as recommended by the Advisory committee and endorsed by the Graduate Committee of the Department on a year-by-year basis.

### **IV Examinations**

A. The Qualifying examination follows the uniform Einstein-wide format, except that ASB students will take the exam in the Spring of the second year of the graduate program. However, ASB students will take the second year Fall exam preparation course along with all other second year graduate students. For details see the Academic Policies and Guidelines of the Einstein Graduate Division. Writing of the proposal is confined to one month, typically March. The proposal is due one week prior to the oral exam in April or May when it has to be personally handed in to the examiners. For setting up the examination please contact the Graduate Division. If you have any questions, please contact Dr. Meier.

- B. The Thesis examination should be taken within 3 years of passing the qualifying examination. Candidacy for a Ph.D. will terminate three years after taking the qualifying examination and admittance to candidacy. In exceptional cases, with the endorsement of the advisor, a candidate may apply to the Graduate committee for an extension of this deadline.
1. The Thesis committee must contain three faculty members from the Department of Anatomy and Structural Biology, two faculty members from outside of the department, and one member from an outside university (6 minimum). The Chair of the committee should be selected by the student and mentor. It is strongly recommended that the Chair be a more senior member of the faculty (Associate or Full Professor).
  2. The Thesis examination includes:
    - a) A thesis which must be delivered in final form to each member of the Thesis committee at least three weeks prior to the thesis defense.
    - b) A public departmental seminar to be presented on the thesis immediately preceding the thesis defense.
    - a) A thesis defense before the thesis committee in which the student answers questions on the thesis.

## **V Other Degree Granting Programs**

Entrance into any other degree granting program cannot occur while enrolled in the graduate (Ph.D.) program in this department.

## **VI Other Requirements**

There are formal and informal seminar series at which attendance is mandatory. There is a student/postdoc run work in progress seminar series in which all students participate. In addition, individual laboratories and interest groups run journal clubs and informal presentations that the students are required to attend. Once a year the students and postdocs arrange seminars by distinguished outside lecturers. Students are encouraged to participate in biannual department retreats.

## **VII Postdoctoral Training**

The philosophy of the Department of Anatomy and Structural Biology is to actively encourage our graduate students to do their postdoctoral work in other institutions in order to broaden their experience. The department has a record of placing students in postdoctoral positions at major universities, often with prestigious Fellowships.