Objectives:
The purpose of the Qualifying Exam is to assess whether students have the analytical, critical and synthetic thinking skills necessary for pursuing a doctoral degree and successfully conducting dissertation research. The skills include, but are not limited to:

- Ability to critically analyze and evaluate scientific literature and data
- Ability to present logical and coherent scientific arguments, both orally and written
- Ability to conceptually design research that is forward-looking and problem-solving
- Ability to use varied techniques to address research questions

Organization:
Students who plan to take this examination must identify themselves to the graduate office by the end of the first semester. They will register for BIOL 69500 Development and Disease Study for 1 credit for the second (Spring) semester of their first year. Registered students will attend an Organizational Meeting that will occur at the end of the first semester (Fall 2010) or the beginning of the second semester (Spring 2011). At the organizational meeting, they will receive a Qualifier Exam Package that will include a total of no more than seven topics with reading lists, provided by the faculty. The topics will be deliberately chosen to reflect a range of methods and research interests across the Development and Disease cluster of faculty. The specific topics vary from year to year. At the Organizational Meeting, students will self-organize to assign topics to individuals and to arrange a schedule for the Spring semester that avoids conflicts with the courses or teaching obligations of all registered students. In past years, students have arranged to meet once or twice per week, usually in the evenings. If possible, each faculty member providing a topic will present one introductory lecture on that topic. Each student will be expected to contribute at least one lecture on a specific topic and/or the related methods. While students are encouraged to discuss the topics with relevant faculty, it is the responsibility of the students to review the methods and literature thoroughly and present the topics to their classmates in a clear, detailed manner. The student presentations may or may not be attended by the faculty member who provided the topic. A grade (Satisfactory or Unsatisfactory) will be earned based on: (1) peer evaluations of each student’s presentation and (2) faculty oversight of the lecture material presented.

The Qualifying Examination will be a take-home format that will take place sometime in May 2010. Each student will choose five out of a total of seven exam essays based on the 7 assigned topics. The students will have seven days to complete their answers (typed with 1.5 line spacing) and turn them in to the graduate office. The students may consult any written materials in preparing their answers but may not confer with anyone about the examination. Plagiarism of any kind from any source will not be accepted and will result in a grade of 0% for that portion of the exam. You are expected to submit all written answers in your own words. Direct quotation or copying from any source, even if credited, is strongly discouraged with one exception: it may be necessary to reproduce a figure from the literature and if so, the source must be provided. The examinations will be graded based on acquisition of the skills listed above under Objectives.
(except that there will be no oral or practical examination components). The scores on each question will be averaged, with an overall average of 75% required to receive a passing grade. Please note that the grade earned on the Qualifying Exam will not be included in the grade for the course.

The convenor of the Development and Disease Cluster will recommend to the Graduate Studies Committee that any student who receives less than 50% on the Qualifying Exam be asked to leave the Ph.D. program. Any student scoring between 50% and 74% will be required to retake the Qualifying Exam and receive a passing grade prior to beginning the Spring semester of their second year of enrollment.

New graduate students contemplating taking this qualifier should meet with the Development and Disease Convenor in August before classes begin in order to determine appropriate courses for each individual.

Recommended courses, depending upon the student’s background and areas of interest:
BIOL 57300 Molecular Biology of Animal Cells (Fall)
BIOL 59500 Developmental Biology (Fall)
BIOL 69500 Cellular Neurobiology (Fall)
BIOL 62000 Advanced Topics in Eukaryotic Cell Biology (Spring)