

**GRADUATE STUDENT HANDBOOK  
MOLECULAR AND DEVELOPMENTAL BIOLOGY  
DOCTOR OF PHILOSOPHY (PHD) PROGRAM  
UNIVERSITY OF CINCINNATI**

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## Table of Contents

Mission Statement.....	5
Statement of Diversity and Inclusion.....	5
I. Application and Admission to Graduate Degree Programs.....	6
A. Application .....	6
1. Process and Requirements.....	6
2. Admissions and Financial Aid .....	7
a. Admissions Decisions.....	7
b. International Students.....	7
c. Financial Aid Decisions.....	8
B. Pre-Registration Procedures and Requirements .....	8
1. Confirm Acceptance .....	8
2. Immunization Records .....	8
3. Transfer of Credits .....	9
II. Doctoral Degree Programs .....	10
A. Course of Study .....	10
B. Credit Hours.....	10
C. Minimum Academic Standards and Procedures for the Evaluation of Student Progress .....	10
D. Options when Minimum Academic Standards are not met .....	11
E. Residency.....	12
F. Foreign Language Requirement.....	12
G. Requirements for the Doctor of Philosophy Degree .....	12
1. Overview of Requirements .....	12
2. Initial Start Date.....	13
3. Lab Rotations and Selection of Advisor.....	14
4. Advisor .....	14
5. Doctoral Candidacy Examination (Qualifying Examination) .....	14
a. The Doctoral Candidacy Examination Process .....	15
Step 1 – Paper Selection .....	15
Step 2 – Specific Aims Page.....	16
Step 3 – Full Proposal.....	16
Step 4 – Oral Examination .....	17
b. Retaking of the Candidacy Examination.....	18
c. Overview of Timing for the Candidacy Examination.....	18
6. Dissertation Committee.....	18
7. Submission of Dissertation .....	18
a. Traditional Thesis Format .....	19
b. Combination of Published and Supplemental Material .....	19
8. Final Defense of Dissertation .....	20
9. Time Limitations .....	20
10. Option to transfer into the Master of Science track.....	21
11. Exit Survey .....	22

III.	Program Requirements.....	23
	A. Graduate Course Requirements .....	23
	B. Course Schedule.....	23
	1. Overview .....	23
	2. Molecular & Developmental Biology Journal Club.....	25
	3. Lab Rotations .....	25
	4. Graduate Student Symposium.....	25
	5. Cincinnati Children’s Research Foundation Seminar Series.....	26
	C. Requirements for the PhD degree in the Molecular and Developmental Biology Graduate Program for students in the MSTP combined MD/PhD Program .....	26
	D. Overview of PhD Program Requirements Timeline.....	26
IV.	Graduate Credits and Grading Practices .....	27
	A. Course Load.....	27
	B. Scholarships.....	27
	C. Grading Practices .....	27
V.	Administration of Program.....	28
	A. Role of Director of Program .....	28
	B. Role of Co-Director of Program .....	28
	C. Role of Associate Director for Graduate Studies .....	29
	D. Role of Associate Director for Admissions .....	29
	E. Role of Associate Director for Curriculum .....	29
	F. Role of Ad-Hoc Members .....	30
	G. Appointment of Officers .....	30
	H. Grievance Committee .....	31
	I. Role of Program Coordinator .....	31
	J. Role of Advisory Board .....	31
	K. Graduate Student Officers .....	32
	1. Admissions Representatives .....	32
	2. Student Representatives .....	32
	3. Seminar Coordinators .....	32
	4. HSGA Representative .....	32
	5. Student Meeting Coordinator.....	33
	6. Social Coordinators.....	33
	7. Website Coordinator .....	33
	L. Overview of Program Administration .....	34
VI.	Institutional Rules, Policies and Procedures .....	35
	A. Academic Dishonesty .....	35
	B. Student Code of Conduct.....	35
	C. Responsible Conduct of Research .....	35
	D. Restricted Research.....	35
	E. Individual Development Plans.....	36
	F. Maternity/Paternity Leave Policy .....	36

VII.	Faculty Membership Guidelines .....	37
	A. Goals .....	37
	B. Nomination and acceptance procedures for New Training Faculty.....	37
	C. Reappointment of Current Training Faculty .....	38
VIII.	Student Forms (overview).....	40
	A. Faculty Lab Rotation Evaluation.....	40
	B. Lab Declaration Form.....	40
	C. Dissertation Committee Meeting Advisor Form .....	40
	D. Dissertation Committee Meeting Member Form.....	40
	E. Application for Thesis Defense.....	40

(Contents are in compliance with the rules and policies of the University of Cincinnati Graduate School)

#### MISSION STATEMENT:

The MDB program is based at the Cincinnati Children's Hospital Medical Center (CCHMC), where the Division of Developmental Biology serves as the program's administrative home. The University of Cincinnati Department of Pediatrics consists entirely of faculty and staff members from CCHMC, which is one of the nation's largest and most highly rated pediatric institutions (ranked #2 in the U.S. News & World Report list of Best Children's Hospitals for 2018-19, being in the top 10 in all pediatric specialties including top 5 in 9 of the 10 subspecialties). The research arm of CCHMC, the Cincinnati Children's Hospital Research Foundation (CCRF) is ranked #2 in the nation in research funding to pediatric institutions from the National Institutes of Health as of 2018. The CCHMC Vision Statement is "Cincinnati Children's Hospital Medical Center will be the leader in improving child health". The CCHMC Mission Statement is "Cincinnati Children's will improve child health and transform delivery of care through fully integrated, globally recognized research, education and innovation". In close alignment with the mission and vision of CCHMC/Department of Pediatrics, the MDB graduate program is committed to be a leader in training scientists in the fields of pediatric molecular medicine and developmental biology.

#### STATEMENT OF DIVERSITY AND INCLUSION:

The Molecular & Developmental Biology Graduate Program is committed to diversity and inclusion as we work to build a more diverse research community. We strive to recruit and retain talented students and faculty from all ethnic, racial and gender groups into our outstanding graduate program.

## I. APPLICATION AND ADMISSION TO GRADUATE DEGREE PROGRAMS

### A. Application

#### 1. Process and Requirements

Completion of the UC Graduate School Online Application is required. Apply online at: <https://grad.catalyst.uc.edu/apply/>. Payment of the application fee is required in order to submit your application.

No hard copies of any application documents will be accepted, except for official copies of academic transcripts which are to be sent directly to the University of Cincinnati Graduate School. The personal background statement should address the applicant's academic background, research experience, motivation to complete a PhD, and career goals. Applications are monitored by the Program Manager and periodic application status updates are emailed to applicants.

The MDB program requires three (3) Letters of Recommendation from people qualified to assess the applicant's ability to succeed in a research-intensive graduate program. The online application will direct applicants to submit names and contact information for their recommenders. Listed recommenders will receive an email with instructions for submitting letters approximately 1-2 days after the student submits an online application.

Unofficial transcripts from every undergraduate and graduate institution attended should be submitted via the online application process as soon as possible. Official transcripts will only be required upon admission to the program. TOEFL scores must be sent to the University of Cincinnati (institution code 1833) directly from ETS. Copies directly submitted by applicants will not be accepted. GRE scores are not required for the application.

After preliminary screening of applications, selected applicants may be scheduled for a personal interview. The interview serves as an opportunity for the applicant to meet faculty and graduate students, to see the program's research facilities and for members of the Program to evaluate the applicant. The program will pay for all reasonable travel expenses incurred during the interview process, in accordance with Cincinnati Children's Hospital Medical Center (CCHMC) Travel Policies.

Applications and all supporting documents are accepted between August 1 and February 1 of each academic year for admission in the fall of the following academic year.

The prospective student is expected to have a strong undergraduate background in biology. Some background in chemistry, physics and mathematics is also preferred. All applicants are required by the Graduate School to have obtained a baccalaureate degree, or its equivalent, before entering the graduate program.

## 2. Admissions and Financial Aid

### a. Admission Decisions

The program's Admissions Committee, in consultation with the Program Director and Co-Director, make all decisions concerning admissions to our graduate program. The committee has the authority to set application deadlines, require certain pre-admission examinations, require satisfactory completion of certain course work prior to admission, and to establish other pre-admission requirements. Admission decisions must not be made on the basis of race, age, sex, color, religion, sexual orientation, or handicap except in those disciplines in which handicap will place the student, other students, faculty or staff in physical danger (Affirmative Action Guidelines). Decisions to admit or not to admit are final unless it can be demonstrated that the Admissions Committee violated a MDB Program policy or failed to apply fairly and consistently the criteria established by the program.

No student will be granted admission on any basis other than full graduate standing. To be admitted with full graduate standing at the University of Cincinnati, a student must have a baccalaureate degree from a college or university regarded as standard by a regional or general accrediting agency. The applicant should have at least a "B" grade average (3.0 on a 4.0 scale) in relevant undergraduate course work, or otherwise give evidence of promise satisfactory to the program. Admission will be made at the discretion of the program.

### b. International Students

In instances where an international student holds a degree for which the U.S. equivalent is not known or if it is determined by the department and/or the International Student Services Office that the applicant does not have the equivalent of a bachelor's degree, the program must submit a petition for admission without a bachelor's degree to the Graduate Council and provide any supporting documentation deemed pertinent. Before admission to the university is completed, all international students must fulfill U.S. Immigration Service requirements and register with the International Student Services Office at the University of Cincinnati.

The Test of English as a Foreign Language (TOEFL) is required of all applicants whose native language is not English. The test must be taken before admission is granted and test scores are only good for two years. This requirement may be waived for international students who have a degree from an accredited American college or university and who have studied oral and written English while a student in an American college or university, as defined by the International Student Services Office (ISSO) of the University of Cincinnati. Presently, the minimum UC Graduate School TOEFL score for

graduate work is 520 (paper), 190 (computer) and 80 (internet). While the TOEFL is preferred, the program will also accept score from the International English Language Testing System (IELTS) with a minimum overall band score of 7.0.

Upon arrival at the University of Cincinnati, all international students are required to carry student health insurance. Insurance fees for the student will be covered by the MDB program and will be assessed at each registration period. If a student wishes to purchase coverage for his or her dependents they may do so and the program will contribute the cost for single student coverage toward the family premium. The student is then responsible for the balance.

#### c. Financial Aid Decisions

All students in good academic standing in the Ph.D. track of the Molecular and Developmental Biology Graduate Program will be eligible for tuition scholarship (University Graduate Scholarship, UGS) through the official candidacy period as granted by the University of Cincinnati (up to 174 credit hours for those entering with a BS, 140 for those entering with an MS). Student fees will also be provided for these students, depending on the availability of funds. Graduate assistantship (GAS) stipend support will be provided to all students in the program, based on performance and availability of funds. Student Health Insurance premiums will also be covered by the program during the first year and the Advisor thereafter. Students will be required to apply for the Graduate Student Health Insurance Award and will be responsible to cover the value of that award if he/she fails to apply. Under ordinary circumstances, assistantships and tuition scholarships will not be awarded to students who have accumulated 174 or more graduate credit hours (140 for those entering the program with an MS). Students are expected to devote full-time to their academic and research training.

#### B. Pre-Registration Procedures and Requirements

1. Confirm acceptance of admissions offer via UC Catalyst system and return signed copies of all three admissions letters to the MDB Program no later than April 15 of the year in which the student is offered admission.
2. Immunization Records

A copy of each student's immunization records will be required at the time of acceptance into the program. These records will be released to Employee Health at CCHMC for review. If additional immunizations are needed prior to CCHMC badging the student must obtain the required immunizations and provide documentation prior to their start date. Failure to fulfill this requirement and any others mandated by Cincinnati Children's Hospital Medical Center may result in the student's expulsion from the program. This will include evidence of 2 MMR

immunizations and either a Tb test in each of the last two years, two back-to-back 2-step Tb tests completed within the last 6 months, or a Quantiferon Gold Tb test (preferred) completed within the last 6 months.

### 3. Transfer of Credits

Limits are set on the amount of work completed at other institutions that can be used to fulfill the MDB graduate degree requirements. The Associate Director for Curriculum will determine which credits are transferrable. Students may be asked to audit courses for which they are transferring credits.

## II. DOCTORAL DEGREE PROGRAMS

### A. Course of Study

The course of study to be pursued for the doctoral degree will be arranged with each student by the Associate Director for Graduate Studies and their Advisor with advice, as needed, from the Program Directors. Course work in other programs may be scheduled according to the needs of the individual student. In all cases, the aim of the doctoral program will be to develop competence in research, scholarship, and professional performance in general, and knowledge of the specialty in relation to allied branches of learning.

### B. Credit Hours

The University of Cincinnati defines the minimum requirement for the doctoral degree in the Graduate Student Handbook. In general, a student must earn a minimum of 90 graduate credits beyond a bachelor's degree or a minimum of 60 credits beyond a master's degree, including at least 7 hours of research, to be eligible for a doctoral degree. The last 30 credits, in either situation, must be earned from the University of Cincinnati and cannot be transfer credits.

### C. Minimum Academic Standards, Research Progress and Work Standards, and Procedures for the Evaluation of Student Progress

1. Students in the Molecular and Developmental Biology Program are required to maintain a minimum of a B (3.0) average in all course work conducted while matriculated in the MDB program.
2. Students obtaining a C+ or below in any required course, including Research, are automatically placed on academic probation during the semester following receipt of the grade of C+ or below. Students who obtain a D or F will be required to retake the course for credit and earn a B or better. Obtaining two grades of C+ or below during their tenure as an MDB student is cause for immediate dismissal from the program. A student may petition the Executive Board to remain in the program if he/she feels there are extenuating circumstances and the advisor supports an exception.
3. Failure to find a lab placement and Advisor by June 30 of the first year is grounds for dismissal at the discretion of the Executive Committee.
4. Students that have advanced to candidacy and obtain a C+ or below in Research from their Advisor are automatically placed on academic probation during the semester following receipt of the grade of C+ or below. In such a case, the student should schedule a thesis committee meeting at the beginning of the following semester to discuss any ongoing issues with his/her committee and the student should also have a separate meeting with the Associate Director of Graduate Studies. If the issues are not resolved and the Advisor again assigns

the student a C+ or below the following semester, the student must again hold a thesis committee meeting. If the student is found to have failed to make corrective actions and sufficient progress has not been made, the thesis committee may recommend that the student be dismissed from the program.

5. Students that fail to attend required meetings, scheduled time to work in the lab, and/or fail to provide documented proof of working on his/her thesis project when working remotely are subject to discipline. If sufficient unexcused absences have accrued (i.e. more than 10 missed work days), the student is subject to immediate dismissal from the program.
6. Determination of normal progress in the Program is defined as:
  - a. Obtaining a grade of at least a B- or Pass (in courses where Pass/Fail is the grading mechanism) in all courses required by the Molecular and Developmental Biology Program;
  - b. Completion of a total of 60 graduate credit hours for those entering with a master's degree and 90 graduate credit hours for those entering with a baccalaureate degree within the specified time stipulated by the rules of the Graduate School of the University of Cincinnati;
  - c. Completion of at least two lab rotations or approval of an exception from the Associate Director for Graduate Studies;
  - d. Attendance and participation at the annual Graduate Student Symposium;
  - e. Passing the qualifying exam in the second year;
  - f. Minimum of one Dissertation Committee meeting every six months following successful completion of the Qualifying Exam (there will be a one month deviation allowed for scheduling conflicts);
  - g. Submission and oral defense of a satisfactory doctoral dissertation or its equivalent within 9 years of matriculation (the time limit specified as required by the graduate school).
7. A written assessment of performance for each student is provided at the end of each academic year. These Milestone Reports must be reviewed and signed by the student, their Advisor and the Associate Director for Graduate Studies. Milestone Reports are then filed as part of a student's permanent academic record.
8. As of 2014, the National Institutes of Health (NIH) requires every graduate student to have an Individual Development Plan (IDP) on file with his or her graduate program. Students will complete the IDP every June in conjunction with the Student Milestone Report, using a template provided by the program.

#### D. Options when Minimum Academic Standards are not met

1. Any student who fails to meet any of the Minimum Academic Standards as set forth by either the Program or the University of Cincinnati Graduate School will be placed on academic probation. The student will be notified of his/her status

with a letter from the Associate Director for Graduate Studies, which will outline the offense and clearly state the terms of probation. Academic probation will last for one semester and the official notice of academic probation becomes part of the student's permanent academic record. No student who is currently on academic probation can be nominated for any awards or fellowships. Past instances of academic probation will be a consideration in the nomination and presentation for all awards and fellowships.

2. If a student is placed on academic probation for a second time, one of two courses of action will be followed, at the discretion of the Executive Committee:
  - a. Dismissal from the program.
  - b. A student may be given the option to withdraw from the program. This allows the student to prevent a dismissal action from appearing on their academic transcript.
3. Process for Appeal: If the student believes there are extenuating circumstances that indicate why his/her performance has not met the minimum requirements of the program, he/she may submit a written petition to the Associate Director for Graduate Studies explaining these circumstances. The written petition will then be presented to the Executive Committee whereupon the Executive Committee will vote either to accept or reject the petition. A vote to reject the petition constitutes a vote for dismissal from the program.

#### E. Residency

Prior to admission to doctoral candidacy, doctoral students shall complete a residency requirement of a minimum enrollment of ten graduate credit hours per semester for two out of three consecutive semesters of study including summer.

#### F. Foreign Language Requirement

There is no foreign language competency requirement for the program.

#### G. Requirements for the Doctor of Philosophy Degree

##### 1. Overview of Requirements

- a. Satisfy all requirements outlined in Section IIC above, and any additional requirements specified in the Graduate Handbook of the University of Cincinnati;
- b. Produce and publically defend a dissertation showing high scholarly achievement based on the student's original research. The student is expected to submit an electronic document as evidence of this research;

- c. The student must provide a completed copy of his/her dissertation to every member of the Dissertation Committee at least two weeks before the date of the public defense of the dissertation;
- d. Public notification of the defense of the dissertation should be made via the online Graduation Application no less than two weeks before actual defense takes place, per Graduate School requirements;
- e. Removal or waiver of all I, NG, UP/SP grades and confirmation of satisfactory repetition or waiver of required course in which an F was originally received, in compliance with Graduate School requirements;
- f. Activities required for graduation.
  - 1) Download the Graduation Checklist from the DB Student homepage on CenterLink.
  - 2) Complete the Application for Thesis Defense and return to the Program Coordinator, with all required signatures.
  - 3) Complete the official online Application to Graduate and pay the application fee required by the Graduate School by the deadline for the semester in which the student expects to graduate. Per Graduate School policy, deadlines are firm and failure to meet them will delay graduation until the following semester, when they must submit a new application for their revised graduation date.
  - 4) Announce your defense with the Graduate School and notify the Program Coordinator of your defense details for CCHMC announcements, preferably as soon as a defense date has been set, but no less than two weeks prior to the defense.
  - 5) Create your committee approval form to be signed at defense.
  - 6) Submit your Electronic Thesis Dissertation (ETD) for Advisor approval. Once your Advisor has approved your thesis it will automatically be submitted to the Graduate School.
  - 7) Check your graduation status online.

## 2. Initial Start Date

All incoming students will be required to start on July 1st unless there are extenuating circumstances approved by the Program Director.

### 3. Lab Rotations and Selection of Advisor

It is highly recommended that lab rotations be no less than 6 weeks in length. A minimum of two laboratory rotations are required unless the Associate Director for Graduate Studies approves an exception. All rotations must be conducted with faculty that are members of the MDB Graduate Program at the time the rotation begins. Student may not rotate with any faculty member until after he/she is approved for membership.

### 4. Advisor

The Advisor directs the research that will constitute the PhD dissertation. The Advisor shall be a member of the Molecular and Developmental Biology Program and the choice shall be mutually acceptable to student and faculty member. The Advisor serves as chairperson of the Dissertation Committee. If the Advisor is not a member of the University of Cincinnati Graduate Faculty a petition to serve as Advisor must be submitted prior to selection of the lab via the Program Coordinator. Please note that if an Advisor in this situation is not approved by the Graduate School, the student will need to change labs immediately.

In the event that a student's Advisor moves to another institution during their PhD tenure, the student may move with the advisor and complete their PhD work at the other institution while remaining in the MDB Program. Requirements and guidelines for doing so are listed in the appendices of this handbook.

### 5. Doctoral Candidacy Examination (Qualifying Examination)

The candidacy committee will consist of five faculty that must be members of the MDB program faculty. Three committee members, including the committee chair, will be invited by the Program Director on an annual basis. These three faculty comprise the "standing committee" that will serve on all of the student qualifier exams in a given year, and the chair of the committee is to be a member of either the MDB Executive Committee or a senior member of the MDB program, appointed by the Program Director. The remaining two ad hoc members for each student committee will be invited to serve by agreement of both the Program Director and Qualifier Committee Chair, on the advice of the student and his/her advisor. The term of service for this committee will be one year. To be eligible for membership on the committee, faculty must:

- 1) Be a member of the MDB Program Faculty;
- 2) Standing committee members must not have a student undergoing the examination process in that year; Ad hoc committee members cannot serve on their own students exam, but can serve on other students exams.
- 3) No committee member may have a conflict of interest with the student(s) he/she is examining, including but not limited to family relationships or other personal relationships
- 4) Commit to all stated timelines and meetings as outlined below.

#### a. The Doctoral Candidacy Examination Process

The Doctoral Candidacy Examination is a requirement of the University of Cincinnati. It represents one of the most careful evaluations of students' intellectual development and capability by the University and the Program. This section contains the rules by which the examination will be conducted by the Molecular and Developmental Biology Graduate Program and guidelines to be used by students and faculty in preparing for the doctoral candidacy examination. To fulfill the basic requirement of the Candidacy Examination a student must formulate a research proposal in some aspect of Molecular and Developmental Biology, using the format of an NIH grant application. The subject of the research proposal can be related to or completely different from the topic of the student's dissertation research but the central hypothesis and specific aims of the research proposal must be generated by the student from the selected paper (see below). The Doctoral Candidacy Committee described above will administer the candidacy examination.

It is important for both the student and their Advisor to understand that the candidacy exam must represent the independent intellectual effort of the candidate. The details of the proposal including specific aims, background information, and experimental design should be formulated and written independently by the student. Inclusion of material from previously published work without appropriate attribution will result in sanctions, at the discretion of the examining committee and in accordance with University Policy and the Student Code of Conduct. Options include, but are not limited to:

- 1) Reporting to the University of Cincinnati
- 2) Rewriting the candidacy exam
- 3) Permitting withdrawal from the University of Cincinnati
- 4) Dismissal from the University of Cincinnati

Timing and deadlines for the Qualifying Exam will be emailed to the students being examined no later than June 1 of each year. Every effort will be made to conclude the process by December 31 of the students' second year of study. The examination process is as follows:

##### Step 1: Paper selection

Each student will select a recently published research article (i.e. not published more than 2 years prior to the date of paper selection), that is not from the advisor's lab but mutually agreed upon by the student and his/her advisor, to serve as preliminary data for the development of a research proposal. A PDF of the selected paper should be emailed to the Program Coordinator by the deadline. The Program Coordinator will then disseminate all paper selections to the Doctoral Candidacy Committee for approval. The Doctoral Candidacy Committee will subsequently approve or reject using the paper as the basis for

developing a grant proposal. If the Doctoral Candidacy Committee rejects the proposed paper, the student and advisor, in consult with the Doctoral Candidacy Committee, must select a different paper to serve as preliminary data for the proposal.

### Step 2: Specific Aims Page

Each student will develop his/her research direction/hypothesis based on his/her selected research article and submit a one-page Specific Aims section of the research proposal to the Program Coordinator by the deadline. The Aims must not have been the subject of any prior research proposal or current ongoing work from the advisor's lab. Students may seek advice and comments from the advisor regarding construction of the specific aims page, but the research direction/hypotheses, specific aims, and research design, must be the student's original ideas.

The Committee will review the Specific Aims page and provide comments to each student within 3 weeks. Note, if significant deficiencies are found with the Specific Aims page, the committee may request substantial revisions that include having the student resubmit a revised Specific Aims page prior to moving onto the full proposal. During this time, the Committee will assign one member to serve as the primary reviewer and another to serve as the secondary reviewer for each student's proposal. All other members will serve as tertiary reviewers. Once the student has received feedback on his/her Aims, he/she may request one 30-minute meeting with the primary reviewer.

### Step 3: Full Proposal

Upon receiving comments from the Qualifier Committee on the Specific Aims page, the student should prepare the full proposal independently and cannot solicit advice or feedback from the advisor or others (including other students, post-docs, lab technicians, etc.). Two exceptions to this rule are noted here: (1) As students at this stage of their career may not be familiar with some technical methodologies, they may seek guidance on technical matters only from their advisor. The advisor will determine which are technical and which are conceptual matters and may decline to offer advice accordingly. (2) Some students may require assistance with grammar and construction of written documents. The advisor will also give this assistance. The full proposal is to consist of a one-page Specific Aims followed by a six-page research strategy section, including Significance, Innovation, and Approach subsections, with proper citation of references in the text and a complete list of references at the end of the proposal.

The Program Coordinator will provide an exact due date to the students via email each year. The full proposal should be accompanied by a one-page statement, signed by both the student and advisor, that outlines the extent of permissible help (as described above) the student received during preparation of the proposal.

After the full proposal has been submitted, students are permitted to practice the oral presentation to lab members and/or others. However, the advisor may NOT listen to or provide any feedback or other forms of preparation for the oral exam.

#### Step 4: Oral Examination

Oral Examinations will be conducted as necessitated by committee schedules. The Program Coordinator will work with students and the committee to set this schedule. Advisors are permitted to attend the examination but must not provide any feedback and must leave the room while the committee is deliberating. Each Oral Examination will be scheduled for a 2-hour period. Students should prepare a 10-15 minute presentation. The Qualifier Committee will interrupt and question all aspects of the proposal. As a portion of the examination, students can be questioned on any aspect of molecular and developmental biology to evaluate basic knowledge and critical thinking skills.

At the end of the oral exam, the student, and if present, their Advisor, will leave the room to allow the committee time to deliberate outcomes. The outcome of the examination is determined by a vote of committee members. A “pass” will require support of at least 75% of committee members. After the vote, the student will be asked to return to the room and will be informed of the committee’s decision by the Committee Chair. The primary reviewer will also briefly discuss the strengths and weaknesses of the written proposal and oral defense, as well as any other suggestions or requirements of the student, regardless of outcome. If revisions to the written proposal are requested, students will have 2 weeks from the date of the examination to submit those changes to the Program Coordinator.

Possible outcomes of the examination include:

- (1) Pass
- (2) Revisions Requested
- (3) Fail

Upon successful completion of any requested revisions, the chair will draft a letter giving his/her consent for the student to continue to candidacy and will send a copy of this letter to the student, the student’s advisor, the Program Director and the Program Coordinator. A failing performance may be reversed by the completion of additional requirements set by the committee, which can include, but is not limited to, complete formulation and defense of a new independent proposal. Lesser requirements may be set as necessary. At this point, any MDB student that has failed the Candidacy Examination the first time can either choose to re-take the exam under the requirements for re-examination governed by University policies (see b, below) or select to leave the PhD program and fulfill the requirements to obtain a Master’s degree (see point 10, below). Note, the Master’s option is not available for MSTP students, as the MSTP program requires good standing in a PhD program to obtain the MD/PhD degree.

Should the student fail to pass the examination on the second attempt, he/she will be dismissed from the program without the option of completing the Master's degree.

#### b. Retaking of the Candidacy Examination

No second examination for candidacy should be held unless both the committee and advisor support re-examination. Students will be required to petition the Executive Committee, in writing, for re-examination. The process must be initiated (i.e. Step 1 completed) within 2 months of the initial exam. Under normal circumstances, the same committee will conduct the re-examination. Should the student fail to pass the examination on the second attempt, he/she will be dismissed from the program.

#### c. Overview of the Candidacy Examination Process

Step 1: Paper Selection

Step 2: Aims Page

Step 3: Full Proposal

Step 4: Oral Examination

### 6. Dissertation Committee

The Dissertation Committee will be formed upon satisfactory completion of the Doctoral Candidacy Examination. The composition of the Dissertation Committee must include the student's Advisor as Chairperson, at least two faculty members in the Molecular and Developmental Biology Program and at least two additional faculty members, at least one of whom should be from another program, another university, or appropriate organization.

The Dissertation Committee will monitor the progress of dissertation research on a continuing basis. Committee meetings with the student should occur at least once every six months, or more often at the discretion of the Dissertation Committee, and will be documented by completion of an evaluation form by the Advisor and each Committee Member to be kept in the student's file. Students will also be required to provide a written progress update to the committee and the Program Coordinator prior to each meeting. The Program Coordinator will include this update in the student's file. Meetings must be held within one month of the six-month deadline, otherwise the student will be considered out of compliance and may be subject to disciplinary action. Review of the written dissertation and the oral defense of the dissertation will be proctored by this committee.

### 7. Submission of Dissertation

The student must have at least one first author paper published, in press, or accepted in a peer-reviewed journal to be eligible to begin writing the

dissertation. The paper(s) must represent, in the view of the student's Dissertation Committee, a significant contribution to the scientific literature. A co-first authored publication can be used to fulfill the one publication criteria as long as the Dissertation Committee unanimously agrees that the student's role in the experimentation, analysis, and writing of the paper represents a significant scientific contribution. Please note that if a co-first author publication is used to meet graduation requirements, the portions of that work performed by the student must be incorporated into the thesis and should have been presented to the committee during regular committee meetings. Publications that do not meet the minimum requirement include abstracts, brief notes, preliminary communications, book chapters, review articles and papers under review for publication. The Executive Committee will consider exceptions to this requirement on a case-by-case basis. The student will have the option of writing the dissertation in either a traditional thesis format or as a combination of published and supplementary material as described below.

a. Traditional Thesis Format:

Introduction - presents the research problem, the background, which critically evaluates existing knowledge and specifically identifies gaps that the research has attempted to fill.

Materials and Methods - complete description of materials and methods employed in carrying out the research

Results - presentation of most or all of the relevant graduate research incorporating necessary tables, illustrations and photographs, and diagrams

Discussion - discussion of results, conclusions drawn, relevance to existing knowledge, difficulties of interpretation of particular data

Bibliography - listing of all cited literature references, including all authors, titles, dates, volume and inclusive pages

Appendix - additional materials including tables or figures, if desired

b. Combination of Published and Supplementary Material:

This mechanism would allow the inclusion of material previously published by the student in the dissertation without substantial rewriting. The completed dissertation would then consist of reproductions of work published or in press and also any additional methods, results, and/or discussion deemed necessary by the student's Advisor and committee.

In most cases, the published work will constitute separate chapters preceded by a General Introduction and followed by a General Discussion. Chapters

containing unpublished data should be written in the format of a scientific paper.

The creation of two mechanisms to satisfy the Program's requirement for a written dissertation does not change the requirement of a satisfactory oral defense of the dissertation or any other requirement of the Program.

## 8. Final Defense of Dissertation

The student's final defense of his/her dissertation will be open to the public and all members of the academic community. Following an oral presentation of the dissertation, the general audience is free to ask questions and make comments. After the audience leaves the room, members of the Dissertation Committee will ask pertinent questions of the candidate. At the conclusion of the defense, the student will withdraw, and the Dissertation Committee will make a decision with regard to the acceptability of the dissertation and its defense, and report to the candidate. If the decision is favorable, the approval form will be signed by the committee members and should be scanned and uploaded by the student into the Electronic Thesis Dissertation (ETD) system. At least 4/5 of the voting members of the dissertation committee must approve the dissertation. Should a student's committee vote against passing the defense, the student will be provided with a written statement within one week of the failed defense outlining either necessary steps for graduation or procedure for dismissal from the program.

## 9. Time Limitations

The doctoral degree will be granted for no less than 90 earned credit hours. All requirements for the doctoral degree must be completed within nine (9) consecutive years of initial enrollment. A period of seven (7) months must elapse between admission to doctoral candidacy and receipt of the degree.

Students who are entering their fifth year of studies should discuss a reasonable timeline for defense with their Advisor. In the event that the student and advisor agree a sixth year of study (either a full year, or partial) is necessary, they must apply for an extension of funding and support from the graduate program. The application must include 1) a cover letter written by the student explaining the reasons an extension is needed and any extenuating circumstances which will prevent the student from defending in the fifth year, 2) a supporting letter from the Advisor, 3) signed forms from each committee member (see Program Coordinator for current form), and 4) a draft first-author manuscript or a copy of a first-author publication already in press. These documents must be submitted to the Program Coordinator no later than January 1<sup>st</sup> of the fifth year of study. The Program Coordinator will also pull the student's committee reports and Individual Development Plan (IDP) to accompany the extension petition. The Executive Committee will consider all extensions during the February meeting; at that time the student will either a) be granted an extension or b) be denied an

extension. Students who are denied an extension have three options. They may 1) finish their PhD work by June 30 of the current year, 2) request, in writing, to be moved to the terminal MS in Molecular & Developmental Biology, at the discretion of the Executive Committee, or 3) withdraw from the program. Any extension beyond a sixth year of study will be rare.

#### 10. Option to transfer into the Master of Science track

At any time after the first year, a student can formally petition the Executive Committee to leave the PhD program and to instead fulfill the requirements of obtaining a Master of Science (MS) degree. If the student is petitioning to transfer into this track after failing to pass the Doctoral Candidacy Exam in the Fall semester of his/her 2<sup>nd</sup> year in the program, the student must fulfill the MS program requirements described below before July 1<sup>st</sup> of the following year. If the student is petitioning to transfer into this track after already successfully passing the Doctoral Candidacy Exam, the Executive Committee will designate a completion date of not more than 6 months in the future for the student to fulfill the MS program requirements described below:

- a. Obtaining a grade of at least a B- or Pass (in courses where Pass/Fail is the grading mechanism) in all courses required by the Molecular and Developmental Biology Program;
- b. Completion of a total of 60 graduate credit hours for the master's degree within the specified time stipulated by the rules of the Graduate School of the University of Cincinnati;
- c. Completion of at least two lab rotations or approval of an exception from the Associate Director for Graduate Studies;
- d. Prior attendance and participation at the annual Graduate Student Symposium;
- e. Selection of an Advisor to oversee the MS thesis work. Once a student has chosen to switch into the MS track, he/she must continue to work with the Advisor to perform a body of original work that will serve as the basis for obtaining an MS degree.
- g. Assemble a MS thesis committee consisting of 3 MDB faculty members, one of which is the student's Advisor. The Advisor will serve as the Chair of the committee. The committee members must be submitted to and approved by the MDB Executive Committee prior to scheduling a defense.
- h. The student must generate a written thesis in a similar format to a PhD thesis (introduction, methods, discussion, conclusions, etc), but will be truncated and does not require a 1<sup>st</sup> authored paper. The student must submit this written thesis at least 2 weeks prior to the defense.
- i. The student must privately defend his/her thesis through a formal presentation followed by questions and comments from the Thesis Committee members. At this meeting, the Thesis committee can either pass the student, request revisions, or fail the student.

## 11. Exit Survey

The Office of Graduate Research and Assessment, at its discretion, will conduct an exit survey on the doctoral experience of all graduating doctoral students. The results will be shared with the doctoral programs. In most cases, the student will be asked to complete this survey upon applying for graduation.

### III. PROGRAM REQUIREMENTS

#### A. Graduate Course Requirements

1. Students must complete a minimum of 90 credit hours, if entering with a Bachelor degree. Students entering with a Masters degree must complete a minimum of 60 credits. All students must take a core curriculum of required courses; thereafter students choose the appropriate coursework and timetable according to their backgrounds and interests, in consultation with the Associate Director for Graduate Studies and their Advisor.
2. Students are required to participate in Journal Clubs (DB9004; Fall Semester first year only each year of study), attend weekly CCRF/MDB Seminars (DB9001 & DB9002; Fall & Spring Semesters of each year of study) sponsored by the Division of Developmental Biology and the Perinatal Institute, and attend all MDB Student Thesis Defenses.
3. Students are required to take the Ethics in Research course in the spring semester of their first year and a course in Biostatistics prior to the end of the 3<sup>rd</sup> year of study.
4. Students are expected to register and complete classes in a timely fashion. Dropping classes, after the first three lectures, will not be permitted except in cases of personal emergency as determined by the program.

#### B. Course Schedule

##### 1. Overview

In the first and second years, students will take courses in Developmental Biology, Molecular & Cellular Biology, Grant Writing, Regulation of Gene Expression and Ethics in Research as outlined below. In addition to these courses, Development and Disease (DB9087) and Advanced Topics in Developmental Biology (DB9086) are required in either the 1<sup>st</sup> or 2<sup>nd</sup> year. Please note that these courses are offered in alternate years in the Spring Semester.

In the second and third years, students complete their course requirements by choosing further electives. For more information on elective courses recognized by the MDB Program please see the Program Coordinator. In addition to completing elective coursework, students are required to take a Statistics Course by the end of the third year of study. Options for completing this requirement are limited and students should contact the Program Coordinator for current requirements.

In Years 3-5 the central focus is the research project, as well as attendance at weekly Seminars, MDB Thesis Defenses and the annual Graduate Student Symposium.

Excused absences may be granted at the discretion of the Course Director(s) with the agreement of the Associate Director for Graduate Studies. For Seminar, Journal Club & Thesis Defense attendance requirements, the only excused absences will be as follows:

- A vacation which was planned AND communicated to the Program Coordinator prior to notification of a thesis defense; if the student fails to notify the Program Coordinator until after the defense notification, the student will not be excused.
- An experiment related obligation (time point, scheduled surgery, etc.) which is scheduled prior to notification of a defense and communicated to the Program Coordinator within 24 hours of a defense notification email; students should note that these will be confirmed with their research advisors before being considered excused.
- Vacations & experiments are expected to be scheduled around established thesis defenses, seminars and Journal Clubs.
- Attendance at an academic conference or meeting, when communicated to the Program Coordinator PRIOR to the scheduled absence (preferably immediately upon scheduling the trip); applying for an Akesson Award does NOT constitute notifying the Program Coordinator of an absence.
- Medical issues which will require a doctor's note.

If a student feels that they have a legitimate reason to miss a required seminar, journal club or thesis defense that is not outlined above, they should contact the Associate Director for Graduate Studies PRIOR to the absence, whenever possible.

An example of the courses chosen by a typical first year MDB student:

Fall Semester	Spring Semester
Developmental Biology Seminar DB 9001 (1 hr.)	Developmental Biology Seminar DB 9002 (1 hr.)
Journal Club DB 9004 (1 hr.)	Grant Writing DB 9089 (1 hr.)
Developmental Biology Laboratory Research DB 9073 (3 hrs.)	Developmental Biology Laboratory Research DB 9073 (5-6 hrs.)
Introduction to Developmental Biology DB 9085C (3 hrs.)	Advanced Topics in Developmental Biology DB 9086 (1 hr.) or Development & Disease DB 9087 (2 hrs.)
Principles of Molecular & Cellular Biology GNTD 7001 (4 hrs.)	Regulation of Gene Expression DB 9088 (2 hrs.)
	Ethics in Research GNTD 7003 (1 hr.)

## 2. Molecular and Developmental Biology Journal Club (DB9004)

Journal Clubs are led by MDB faculty. Faculty select papers, which are then presented by the MDB students. The MDB Journal Clubs occur in the Fall semester of the students' first year. The Program Coordinator will track attendance at Journal Clubs and the Faculty who are leading the Journal Clubs will indicate to the Associate Director for Graduate Studies whether students are satisfactorily participating in a given semester. Attendance is mandatory for all students. Any student who has 25% or more unexcused absences during the semester (as defined by the University of Cincinnati official calendar) will receive a "C" and be placed on academic probation.

## 3. Lab Rotations (DB9073)

Three laboratory rotations of a minimum of 6 weeks each are recommended; a minimum of two rotations are required. Students must complete one of the required laboratory rotations during the summer prior to fall semester of their first year. A faculty member who takes a student into a lab rotation is expected to give the student adequate time and supervision. The first laboratory rotation must begin within one week of program orientation in the July prior to the fall semester of their first year. Performance during lab rotations will provide a basis for the research (DB 9073) grade in the first year.

## 4. Graduate Student Symposium

All students in their third year or beyond are required to present their work at the annual MDB Student Symposium. Presentations take the form of oral presentations or posters. Second year students have the option to present a poster of their preliminary studies. Students who are defending their thesis in the fall semester are not required to present at Symposium but should plan to attend.

## 5. Cincinnati Children's Research Foundation Seminar Series (DB9001 & DB9002)

All students are required to participate in the weekly seminar series sponsored by the Division of Developmental Biology and the Perinatal Institute. The Program Coordinator will sit on the Seminar Committee, which is appointed by the Director of the Division of Developmental Biology. The Program Coordinator is responsible for organizing the weekly series and will record student attendance each week. Students arriving to seminar more than 5 minutes after the stated start time and/or leaving prior to the end of the seminar, will be marked as absent. The Associate Director for Graduate Studies will issue grades for seminar participation/attendance. Also, as part of the grade for the Seminar course (DB9001 & DB9002) students are required to attend all MDB Student Thesis Defenses. Any student who has 25% or more combined unexcused absences for seminar/thesis defense presentations during a given grading period (May-December for fall grades and January-April for spring grades) will receive a "C" and be placed on academic probation.

C. Requirements for the Ph.D. degree in the Molecular and Developmental Biology Graduate Program for students in the MSTP combined M.D./Ph.D. program

1. MSTP students will enter the program as second-year students for the purposes of Student Symposium requirements. However, all Developmental Biology courses MUST be taken within one year of entering the program. This includes Introduction to Developmental Biology (DB9085C), Advanced Topics in Developmental Biology (DB9086), Development & Disease (DB9087) and Gene Regulation (DB9088). Whichever of Development & Disease or Advanced Topics in DB is not offered during the first year must be taken during the second year.
2. MSTP students must successfully complete their first year in the MDB program prior to beginning their candidacy exam.
3. Withdrawal/dismissal from the MSTP program will result in an automatic dismissal from the MDB PhD program.
4. Per the MSTP Student Handbook “MSTP students must have a minimum of one first author paper published before their return to M3”.
5. All other requirements will be the same as for the Doctor of Philosophy Degree.
6. All requirements as outlined by the MSTP Student Handbook must be satisfied.

D. Overview of PhD Program Requirements Timeline

	July	August	September	October	November	December	January	February	March	April	May	June
Year 1	Lab Rotation I		Lab Rotation II			Lab Rotation III			Lab Rotation IV			Lab Declaration
	Program Orientation	MDB Student Symposium (no presentation)	Fall Semester Coursework			Spring Semester Coursework including either Development & Disease or Advanced Topics in DB (offered in alternate years)						Milestone Report
Year 2	Begin/Continue work in selected lab	MDB Student Symposium (optional poster presentation)	Fall Semester Journal Club & Fall Semester Seminar			Spring Semester Seminar & either Development & Disease or Advanced Topics in DB (offered in alternate years)						Milestone Report
	Qualifier Examination Process											
Year 3	Begin/Continue work on thesis project	MDB Student Symposium (required oral presentation)	Fall Semester Journal Club & Fall Semester Seminar			Spring Semester Seminar **Last Semester in which to complete the Biostats Requirement**						Milestone Report
					Bi-Annual Committee Meeting						Bi-Annual Committee Meeting	
Year 4	Continue work on thesis project	MDB Student Symposium (required poster presentation)	Fall Semester Journal Club & Fall Semester Seminar			Spring Semester Seminar						Milestone Report
					Bi-Annual Committee Meeting						Bi-Annual Committee Meeting	
Year 5	Continue work on thesis project	MDB Student Symposium (required oral presentation)	Fall Semester Journal Club & Fall Semester Seminar			Spring Semester Seminar						Milestone Report
					Bi-Annual Committee Meeting						Bi-Annual Committee Meeting	
Year 6+	Continue work on thesis project	MDB Student Symposium (required poster presentation)	Fall Semester Journal Club & Fall Semester Seminar			Spring Semester Seminar						Milestone Report
					Bi-Annual Committee Meeting						Bi-Annual Committee Meeting	

#### IV. GRADUATE CREDITS AND GRADING PRACTICES

##### A. Course Load

1. Students will register for at least 12 credits (for full-time student status) for Fall and Spring Semesters exclusive of audit credits, unless otherwise directed by the Program Coordinator.
2. Except in unusual circumstances, no outside work is permitted for students. Exceptions require written permission of the program.

##### B. Scholarships

Students receiving University Graduate Assistantships (UGA) or Graduate Assistant Scholarships (GAS) must carry a full-time course load (12 credits or more) each semester exclusive of audit credits. Under ordinary circumstances, assistantships and tuition scholarships will not be awarded to students who have accumulated 174 or more graduate credit hours. Students will be eligible for tuition scholarships and graduate assistantships based on performance and availability of funds for up to 9 years post-matriculation. UGA and GAS will be awarded based on continued compliance with all University guidelines as outlined in the University of Cincinnati Graduate Student Handbook.

##### C. Grading Practices & Registration

For information on grading practices, course registration procedures, adding and dropping classes, and credit hour requirements for full-time student status, please consult the Graduate School Student Handbook.

## V. ADMINISTRATION OF PROGRAM

The program shall be administered by an Executive Committee to consist of the Director of the Program (chair), Co-Director of the Program, Associate Director for Graduate Studies, Associate Director for Admissions and Associate Director for Curriculum. Major programmatic changes will go through an MDB Advisory Board consisting of the four most recent Program Directors for evaluation and recommendations will be made to the Executive Committee.

### A. Role of Director of the Program

The Director of the Program shall have responsibility for administration of the Program. The Director shall call faculty meetings, bring appropriate issues to the faculty for resolution, carry out policy decisions of the faculty, and appoint individuals and committees to carry out duties of the Program. It is ultimately the Program Director's responsibility to assure that activities related to the Program are carried out in compliance with University policies and needs. The Chairman of Pediatrics appoints the Director of the Program for a three-year term. Detailed duties include:

- Write Program Review Report (every 7 years) for The Graduate School
- Run Faculty meetings (3x per year)
- Consult Advisory Committee (previous 4 program directors) when necessary
- Program Overview at Orientation & during admissions events
- Sit on Committee on Graduate Education (CGE) at College of Medicine
- Review and Approve Admissions Committee Decisions
- Liaison between CCHMC and University of Cincinnati Deans (CoM and Grad School)
- Represent program in dealing with CCHMC & UC leadership including CCHMC Board of Trustees
- Approve budget and make requests for funds (as needed) from Chair of Pediatrics or UC Deans
- Final say in all policy decisions
- Ultimately responsible for ensuring that the program meets all university requirements

### B. Role of Co-Director of the Program

The purpose of the Co-Director of the Program is to ensure an orderly transition at the end of a Director's term and is considered the Director-elect. The Co-Director shall work with the Director to perform the duties outlined above when the Director is indisposed. The Co-Director will be responsible for meeting with MDB students at the end of their first year to review the process and expectations of the Qualifying Exam. The Co-Director will recruit and assemble the Qualifying Exam committee and work with the Director of the MDB program to appoint a suitable Chair for the Qualifying Exam committee. In the event that a student fails the first exam and decides to re-take the Qualifying Exam, the Co-Director will attend the second exam to answer any committee member questions and ensure that the program rules are

followed. The Chairman of Pediatrics appoints the Co-Director of the Program for a three-year term to overlap with the term of the Director. Detailed duties include:

- Shadow Program Director in all duties
- Fill in for Director when he/she is not available for meetings
- Appoint Standing Qualifier Committee and oversee timeline/requirements
- Qualifier overview with rising 2nd year students
- Attend Qualifier re-takes as a program representative
- Mediate qualifier issues such as fails, accusations of unfairness, etc.
- Review and Approve Admissions Committee Decisions
- Serve as proxy for students of the Associate Director for Graduate Studies

#### C. Role of Associate Director for Graduate Studies

The Associate Director for Graduate Studies shall have responsibility for dealing with student affairs. The Director and Co-Director of the Program appoint the Associate Director for Graduate Studies for a three-year term. Detailed duties include:

- Presentation at orientation for incoming students
- Sit on Admissions Committee and attend all admissions events
- Meet with first year students to discuss lab rotations
- Introduce new students and faculty at Student Symposium
- Review and sign off on all committee meeting forms (twice per year, per student at minimum)
- Sign off on all Applications for Thesis Defense
- Resolve conflicts within thesis committees including meeting with PI's and students
- Resolve grade disputes between course directors and students
- Reporting to Executive Committee of any student issues
- Meet with students placed on academic probation
- Serve as proxy for students of the Co-Director

#### D. Role of Associate Director for Admissions

The Associate Director for Admissions shall have responsibility for recruitment and admission of graduate students to the graduate program in Molecular and Developmental Biology. The Director and Co-Director of the Program will appoint the Associate Director for Admissions for a three-year term.

The Associate Director for Admissions selects the members to serve on the admissions committee. The roster for the committee is then approved by the program directors. The admissions committee should contain at least two student representatives, elected by the student body. The students' representatives must be in good standing in the program or the Associate Director for Admissions can request replacements. The admissions committee interviews applicants and makes recommendations to the program directors about which applicants to render an offer of admission. The Associate Director for Admissions chairs the admissions committee meetings and interviews unless he/she is absent, in which case a surrogate may be appointed. Any disagreements between committee members may

be referred to the program directors and executive committee if necessary. Detailed duties include:

- Form and chair the admissions committee
- Review all incoming applications and assign to committee members for review and scoring
- Communicate with prospective students
- Attend recruitment events, both local and nationally
- Schedule recruitment days and make invitations
- Organize and conduct Skype interviews with international students
- Interview Whitsett Fellowship applicants
- Communicate with faculty at other institutions to promote the program and encourage applications

#### E. Role of Associate Director for Curriculum

The Associate Director for Curriculum shall have responsibility for overseeing all graduate courses in the program. He or she will appoint Course Directors for each graduate course offered by the program and be responsible for overseeing the activities of those Course Directors. At the end of each semester, the Associate Director for Curriculum will work with the Program Coordinator and the Course Directors to receive student feedback for each Course. The Associate Director for Curriculum will also be responsible for assigning grades for the Seminar Series and Journal Club courses. The Director and Co-Director of the Program will appoint the Associate Director for Curriculum for a three-year term. Detailed duties include:

- Oversee course organization via Course Directors
- Design and review course evaluations and discuss with course directors to improve courses
- Following up with students that have excessive course absences
- Approve excused absences for seminars and journal clubs
- Approve grades for seminars and journal clubs
- Recruit and appoint course directors for MDB classes (Intro to DB, Gene Reg, Dev & Disease, Advanced Topics, Journal Club)

#### F. Role of Ad-Hoc Members

Ad-Hoc Members will be appointed by the Director and Co-Director of the Program as needed and may include members with expertise in program finance, human resources, student recruitment, and/or faculty membership. These ad-hoc members shall have responsibility for advising the Executive Committee on those issues which fall under the purview of their specific area of expertise.

#### G. Appointment of Officers

The Director of the Program and the Co-Director of the Program are each appointed for three-year terms, by the Chairman of Pediatrics. The Chairman of Pediatrics, or his/her representative will solicit nominations. The Director of the Program and the Co-Director of the Program will appoint the Associate Directors.

## H. Grievance Committee

The Executive Committee shall serve as the grievance committee. The grievance committee is responsible for dealing with student grievances according to University policy as described elsewhere in these program guidelines. In the event that a student is dissatisfied with the ruling of the program grievance committee, he/she is encouraged to pursue resolution through either the University Ombuds Office or the formal Graduate School Grievance Procedures.

## I. Role of Program Coordinator

The Molecular and Developmental Biology Graduate Program is based in the Division of Developmental Biology at the Children's Hospital Research Foundation.

The Program Coordinator is the main contact person for the Program. This individual attends to and coordinates the day-to-day activities of the program, including providing clerical support, monitoring budgetary activities, tracking student progress, providing guidance to faculty, coordinating committee activities, and organizing the student symposium. The Program Coordinator will also serve as a member of the Admission Committee and coordinate all activities related to the recruitment and admission of students to the program. The Program Coordinator will also coordinate the CCRF/MDB Seminar Series in consultation with the Seminar Committee, which is appointed by the Director of the Division of Developmental Biology. Activities related to the daily operation of the program courses will also be the responsibility of the Program Coordinator, including but not limited to attendance tracking. Questions or concerns related to the program should first be brought to the attention of the Program Coordinator who will forward them to the appropriate individual when necessary. The Program Coordinator is also responsible for developing and updating a procedure manual for activities related to the Molecular and Developmental Biology Graduate Program. The Program Coordinator shall attend the program's faculty meetings and prepare minutes.

## J. Role of Advisory Board

The Advisory Board will consist of the four most recent former Program Directors. This board will use their knowledge of the program to consider major programmatic changes and make recommendations to the Executive Committee. The Board should meet a minimum of once per year but may meet more often as necessary and as requested by the Program Director. Members of the Executive Committee may be asked to attend Advisory Board meetings when topics discussed will directly impact the day to day operation of the program. Final decisions on all issues considered by the Advisory Board will rest with the Program Director.

## K. Graduate Student Officers

Elections for Molecular and Developmental Biology student officer positions are held at the end of the Spring semester each year. Students may nominate themselves or others for any positions and then vote based on the nominations. All students nominated for any positions must be in good academic standing and have obtained approval from their advisor to serve.

### 1. Admissions Representatives

Student Admission Representatives play active roles during the interview process and recruitment of new students each year. They are responsible for organizing the Thursday night dinners that take place prior to the interview day. On the interview day, the Student Admission Representatives read through applications of interviewees and sit in on each candidate's interview, and weigh in on the discussion and decisions following each interview session. Student Admission Representatives are also responsible for organizing lab tours and demonstrations that take place on interview days. Two Admissions Representatives will be elected.

### 2. Student Representatives

Student Representatives act as liaisons between the MDB students and faculty. They attend MDB general faculty meetings throughout the year where they address student questions and concerns. Additionally, Student Representatives keep the MDB student posters up to date as new first year students join the program and upper classmen graduate. Student Representatives also organize the MDB officer elections at the end of the Spring semester. Two Student Representatives will be elected.

### 3. Seminar Coordinators

Seminar Coordinators organize the Wednesday seminars according to research focus and assign students to lunches and breakfasts with the seminar speakers based on mutual research interests. Additionally, seminar coordinators are responsible for hosting the Richard Akeson Memorial seminar speaker at the beginning of the school year. Two Seminar Coordinators will be elected.

### 4. HSGA Representative

One of the main goals of Health Sciences Graduate Student Association (HSGA) Representatives is to work with the HSGA and make Graduate Student Governance Association (GSGA) student awards known to all MDB students. It is important to maintain this affiliation with HSGA in order to allow MDB students the opportunity to apply for GSGA travel grants. Additionally, HSGA representatives are responsible for attending HSGA general meetings and

notifying MDB students of GSGA activities, fundraising events and new university policies. One HSGA Representative will be elected.

#### 5. Student Meeting Coordinator

Student meetings in the MDB program are typically held once a month during the academic year. The Student Meeting Coordinator organizes times, rooms and presenters for each meeting. MDB students give presentations as well as provide feedback to other students on presentation clarity, skill and data. Meetings may be organized to allow students to prepare for conferences, MDB student symposium, and committee meetings and to allow first year students to refine their presentation skills. One Student Meeting Coordinator will be elected.

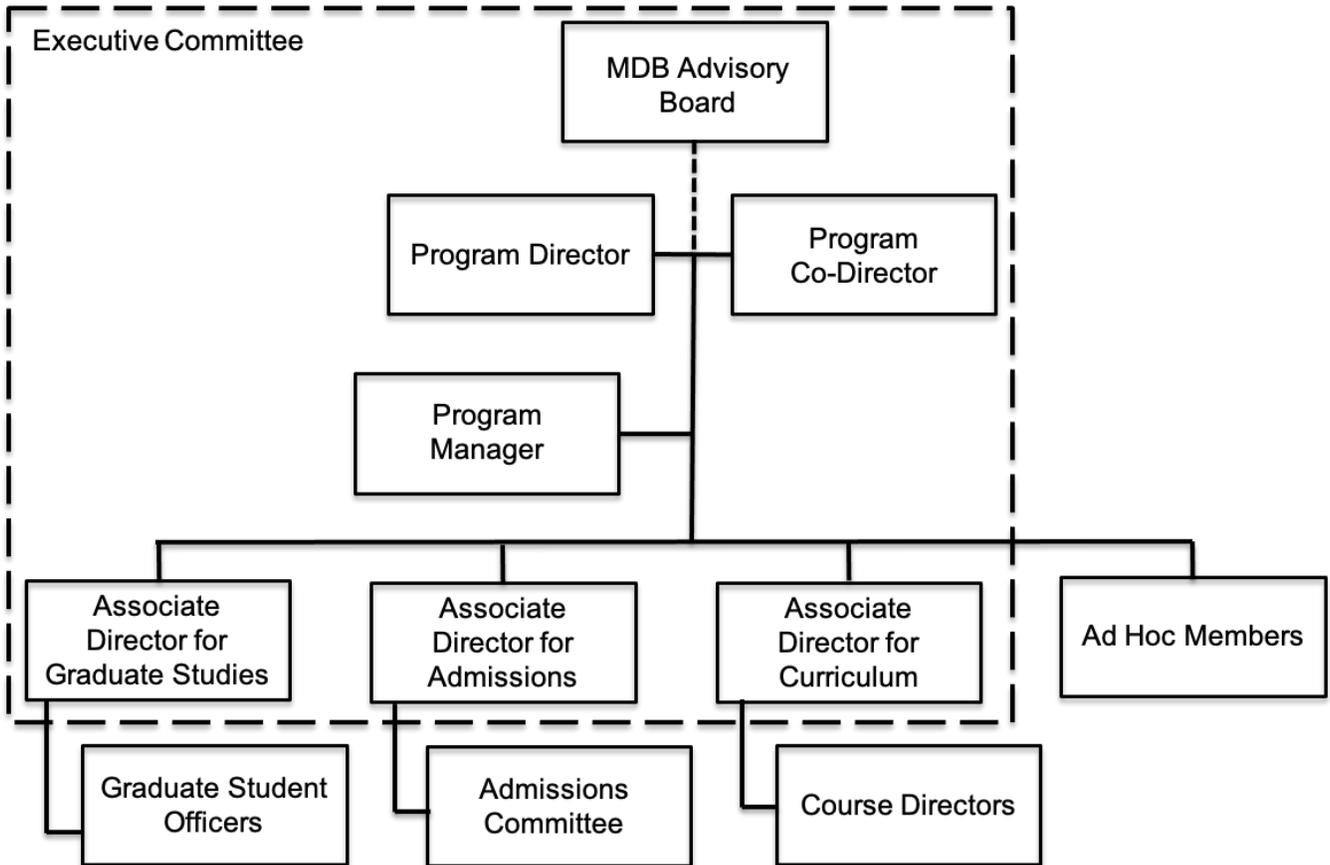
#### 6. Social Coordinators

Social Coordinators organize social and recreational events that allow MDB students to socialize outside of the lab and introduce the first year students to upper classmen in the program. Several events are planned each semester, beginning with the official MDB Welcome Picnic. Previous events have included trips to local sporting events, skiing, Cincinnati Zoo outings and bowling. Two Social Coordinators will be elected.

#### 7. Website Coordinator

The Website Coordinator is responsible for regularly updating the MDB program website with new developments and progress made by faculty and students. A major focus of the website coordinator is to increase the online visibility of the MDB program. An additional responsibility of the Website Coordinator is to facilitate interaction with international organizations, blogs and websites that are resources for prospective graduate students. One Website Coordinator will be elected.

L. Overview of Program Administration



## VI. INSTITUTIONAL RULES, POLICIES AND PROCEDURES

In addition to the rules, policies and procedures outlined in the Graduate Student Handbook, the Molecular and Developmental Biology Graduate Program will further require:

### A. Academic Dishonesty

When an MDB student is suspected of Academic Dishonesty, the charge should be brought to either the Program Coordinator or the Associate Director for Graduate Studies. The charge(s) will be examined by the Executive Committee and either confirmed or declined. If charges are confirmed the Executive Committee will decide on a course of action in compliance with the University of Cincinnati's Student Code of Conduct.

### B. Student Code of Conduct

MDB Students are expected to adhere to the University Student Code of Conduct as well as all standards of conduct at Cincinnati Children's Hospital Medical Center as outlined by CCHMC policies and procedures (available on CenterLink).

### C. Responsible Conduct of Research

Furthering of research is a major institutional goal of the University of Cincinnati. Research includes not only intellectual activity and exploration designed to expand knowledge and understanding, but also activities in the creative and performing arts designed to interpret and create. Such activities require responsibilities for the ethical and safe conduct of research. Individuals charged with supervision of research, as well as all individuals directly engaged in it, and collaborators of investigators outside their own units are responsible for the quality of the data generated in their own laboratories as well as the laboratories of their collaborators. Everyone shares responsibility for the physical safety and intellectual property of individuals in the responsible conduct of creative scholarship and research.

### D. Restricted Research

The right to open exchange of information and opinion in faculty relations with students carries the obligation to avoid comments or violations of confidentiality that would reduce free expression or inquiry by students. Student involvement in industrial proprietary projects should be permitted only when these projects in no way restrict the student's ability to fulfill his/her degree requirements, which includes the obligation to publish dissertation results.

Faculty members have the right to publish their research findings and the right to protection against retaliation because of displeasure over their conclusions by the public, administration, government, or others. They have the concomitant responsibility to refrain from conducting secret, non-publishable research as part of their university duties.

#### E. Individual Developmental Plans

As a program, we recognize the importance of mentoring students and trainees in career development. As such, individual development plans (IDPs) are an important part of career development for our graduate students. IDPs include trainee self-assessment, career exploration, and setting short and long term career goals. IDPs are required for all students using a standard form that must be updated yearly and signed by the Student, the Advisor, and the Associate Director of Graduate studies.

#### F. Maternity/Paternity Leave Policy

Students in the Molecular Developmental Biology Program will be paid for no more than six weeks of maternity/paternity leave. Under extenuating circumstances as deemed by the student's physician, Advisor, and the Director of the Program, additional time may be granted. The student's Advisor and the Director of the Program, prior to the beginning of the leave, must approve all time off. The student's Advisor and the Director of the Program may approve additional time off without pay.

## VII. FACULTY MEMBERSHIP GUIDELINES

### A. Goals

The goals of the Molecular and Developmental Biology Graduate Program are (1) to develop outstanding scientists through guidance of thesis and dissertation research of participants in the program; (2) to provide formal courses, seminars, and journal clubs of the highest quality to the Molecular and Developmental Biology Graduate students and also the University of Cincinnati academic community; (3) to enhance the participants' breadth and depth of scientific expertise in fundamental issues in contemporary basic and biomedical science; and (4) to increase awareness within the University of Cincinnati academic community and elsewhere of the potential contributions to basic and biomedical sciences of the information contained in and the approaches used by the discipline of Molecular and Developmental Biology. It is expected that new faculty will have demonstrated independence in their research program and an ability to support a graduate student -- generally through grant funds. Applications would also be encouraged from individuals who might be expected to complement and/or develop strong interactions with the current faculty. The faculty should be thinking in terms of focused training areas, which will lead to training grants. Two-thirds of the faculty in the Program should have their primary appointments in the Department of Pediatrics. Faculty members are required to attend at least one third of the Faculty meetings as evidence of their continued interest in the Program.

The aspiration of the Program to excellence requires a vigorous and committed faculty. As membership in the Program is voluntary, it is clear that the goals of the Program will be met only through a high level of faculty involvement. Thus, new faculty members must have demonstrated that they share these aspirations, and the level of commitment of existing faculty members must be assessed periodically.

While the guidance of thesis/dissertation research is a major activity of the Program, some individuals may contribute significantly to the Program without acting as a student's Advisor. Faculty appointments will be made at either of two levels. One will be comprised of Training faculty who will act as mentors for students training in the Molecular and Developmental Biology Program. In addition, it is recognized that some individuals may contribute significantly to the Program without wanting to act as a student Advisor and such individuals can join as Program Affiliates. Faculty with either appointment will have equal voting privileges. It should be noted that students are permitted to select an Advisor who was on the training faculty at the time of their entrance into the Program, as long as that faculty member maintains adequate funding to support the student.

### B. Nomination and acceptance procedures for New Training Faculty.

To meet the above stated goals, the following processes for consideration of Training faculty appointment and evaluation have been adopted.

1. Tenure track and non-tenure track Faculty members at the University of Cincinnati are eligible for admission to the Program.
2. The candidate should be willing to assume teaching, administrative, and related responsibilities within the Program.
3. Unless the nominee is an entry-level faculty, he/she should have a previous history of training students either as a mentor or a member of student committees and be able and willing to provide stipend support for students under their supervision.
4. The funding source for students may not impose any restrictions or limitations on the ability of the student to publish their research findings.
5. Prospective MDB Faculty members should have sufficient major funding to support a student and his/her research or should be actively seeking funding if they are newly independent investigators.
6. Prospective MDB faculty should have established strong research productivity as indicated by first and/or last author publications.
7. Prospective MDB Faculty members should understand it is the expectation that Division Directors will provide funding for any students working under the faculty in their division, in the event that a faculty member were to lose funding.
8. MDB faculty members are required to have current and complete information on the MDB Website.

The process for the nomination and acceptance of a faculty candidate for membership in the program is as follows:

Candidates must be nominated by their Division Director and approved by an ad-hoc member or members (as invited by the Program Director), for faculty membership. The application should include the following: A) a letter from the candidate that defines (1) his/her expectations from the Program, (2) contributions that he/she feels his/her expertise and background will provide to the Program, (3) supporting evidence of interest in Molecular and Developmental Biology, which will include a summary of past research, graduate student training, and teaching experience, and (4) a history of present and past research support; B) a current CV; C) a letter of support from a current member of the program faculty and; D) a letter of support from the candidates' Division Director outlining the division's willingness to cover any declared students in the event that the candidate should lose funding. This information should be forwarded electronically to the Program Coordinator who will forward to the ad-hoc member(s). This information will then be provided to the Faculty as a whole and the application will usually be voted on at the next general faculty meeting (held two times per year). Membership will be decided by a simple majority (50% plus 1).

### C. Reappointment of Current Training Faculty

All Faculty members in the Graduate Program have appointments of 6 years, after which time the ad-hoc member, appointed by the Director of the Program, will review the members and make recommendations to the faculty as to whether or not each reviewed faculty member should continue as faculty within the Graduate Program. The criteria for continued membership in the Program will be similar to those applied to the admission of new Faculty members and will be particularly

concerned with the extent of involvement of the Faculty member in teaching, administration, and other related tasks in the Program as well as the ability to support a student's research.

Prior to each review the Program Coordinator will request that each faculty member being reviewed submit a letter outlining their intention to remain with the MDB program as well as their training activities since their last review. A current CV should also be forwarded.

All MDB Faculty members are required to participate in at least one program activity during each academic year. Examples of program activities include:

- A. Service on the Doctoral Candidacy Examination Committee as either a standing or ad hoc member;
- B. Teaching in an MDB course (Journal Club, Intro to DB, Advanced Topics, Development & Disease, Grant Writing, Regulation of Gene Expression) or serving as a Course Director;
- C. Serving as a judge at the Annual MDB Graduate Student Symposium;
- D. Participate in MDB Recruitment as either a member of the Admissions Committee or by interviewing potential students.

Activity will be monitored by the Program Coordinator. Any faculty member that has not participated in an above outlined activity will be notified via email and will not be permitted to accept rotating or thesis students during the following academic year.

## VIII. STUDENT FORMS

All forms will be distributed by the Program Coordinator using the DocuSign platform. Hard copies will not be accepted.

### A. Faculty Lab Rotation Evaluation

The Faculty Lab Rotation form will be sent to each faculty member upon completion of a first year student lab rotation. The grades assigned on this form will be the basis for the Laboratory Research course.

### B. Lab Declaration Form

The Lab Declaration form should be completed upon selection of a lab for thesis research. When both the student and advisor have agreed to the placement, the student should notify the Program Coordinator who will distribute the form for signature. The form should be completed no later than June 30 of the first year.

### C. Dissertation Committee Meeting Advisor Form

The Dissertation Committee Meeting Advisor form is to be completed by the thesis advisor at the conclusion of each committee meeting and signed by both the advisor and student. Students must inform the Program Coordinator of upcoming committee meetings no less than 2 weeks prior to the meeting date. The Program Coordinator will distribute the appropriate forms electronically.

### D. Dissertation Committee Meeting Member Form

The Dissertation Committee Meeting Member form is to be completed by each member of the dissertation committee at the conclusion of each committee meeting and signed by both the committee member and student. Students must inform the Program Coordinator of upcoming committee meetings no less than 2 weeks prior to the meeting date. The Program Coordinator will distribute the appropriate forms electronically.

### E. Application for Thesis Defense

The Application for Thesis Defense form needs to be completed as soon as a student gets approval from the committee to begin writing the dissertation. All members of the committee must sign. The student should notify the Program Coordinator that they are ready to complete the form and the Program Coordinator will then distribute the form electronically. This form should be completed no less than four weeks prior to the proposed defense date.