

The Interdisciplinary Doctoral Program in Biology, Biomedicine, and  
Chemistry (IDBBC) at  
East Carolina University  
Standard Operating Procedure AY 2019-2023

## **I. Preamble**

This document outlines the mission and guidelines under which the Interdisciplinary Doctoral Program in Biology, Biomedicine, and Chemistry (IDBBC) at East Carolina University (ECU) functions. Included within this document are the roles and responsibilities of the IDBBC Director and the IDBBC Program's standing committees.

## **II. Description of the Program**

The mission of the IDBBC program is to promote student creativity and excellence via the acquisition, interpretation, and synthesis of scientific information through three scientific concentrations: Biology, Biomedicine, and Chemistry. Students pursue individual interests in the context of a structured but flexible program of classroom instruction, theoretical or empirical research, professional development experience, and a doctoral dissertation.

The IDBBC program is based on ECU's strong tradition of liberal arts education and research in the life sciences. The IDBBC program seeks to meet the growing need for professionals and researchers with the highest academic degree in various job markets, including academia, industry, government, and the private sector. To do so, it emphasizes an integrated and interdisciplinary approach to life sciences studies with three disciplinary foci/concentrations. Students participate in a common core curriculum and subsequently pursue a concentration in their chosen field of specialization. Each IDBBC student is formally affiliated with one of the three academic units, and their research is centered on Biology, Biomedicine, or Chemistry.

The Biology concentration has experimental biology as its primary focus. This concentration is designed to provide interdisciplinary doctoral training in molecular genetics, cell and molecular biology, plant biotechnology, biochemistry, ecology, systematics and evolution, developmental biology, reproductive endocrinology, neurobiology, and physiology. Students in this program will receive broad exposure to topics that range across all the life sciences.

The Biomedicine concentration provides interdisciplinary doctoral training that can be based in basic science or clinical departments in the Brody School of Medicine. Broad areas of research opportunities include cancer biology, cell physiology, immunology, stem cell biology, biochemistry, molecular biology, pharmacology, toxicology, neuroscience, and the biology of bacterial and viral pathogens.

The Chemistry concentration is designed to provide doctoral education at the interface between chemical, biological, and basic biomedical sciences. Students in this program will receive broad exposure to topics in chemistry and related biological sciences. The department has expertise in both the experimental and computational methodologies used to investigate the synthesis, structure, function, reaction mechanisms, and molecular dynamics of biologically important compounds.

### **III. Membership**

#### **a. Full membership**

The IDBBC faculty will be tenure-track or tenured faculty with appropriate graduate faculty status in the three participating concentrations: Biology, Biomedicine, and Chemistry. Non-tenure-track graduate faculty with an active research program in one of the three concentrations will be identified by the Department Chairs to join the program as a member.

In terms of specific metrics, current guidelines suggest that in research, the faculty member should have earned points in at least three research categories with a minimum of six points total in the past five years. Research categories are as follows (range of points available per category in parentheses): Article primary/corresponding author (3 per item), article co-author (2 per item), author presentation (1 per item), applicant for external grant (2 per item), national-level grant recipient (3 per item), state-level grant recipient (2 per item), and internal grant recipient (1 per item). For teaching and service, faculty should have earned points in at least three categories, with a minimum number of six points total in the past five years. Teaching and service categories are as follows: Dissertation mentor (4 per item), Thesis mentor (3 per item), Dissertation/Thesis committee member (2 per item), journal reviewer (1 per item), review panel member (2 per item), journal editor-in-chief/Editorial board (4/3 per item), teach graduate-level course (2 per item), develop graduate-level course (3 per item), officer in a scientific organization (2 per item).

Full faculty members should be actively engaged in research and committee service in the IDBBC program. They should have experience and be engaged in mentoring and teaching students in the IDBBC program and demonstrate evidence of research productivity in a field related to the IDBBC. The full membership will be renewable every five years.

#### **b. Affiliated membership**

Because of the interdisciplinary nature of the IDBBC program, it is necessary for the program to maintain ties with non-IDBBC, IDBBC-affiliated faculty across the University; this will be accomplished primarily by recruiting ECU faculty to: serve on IDBBC students' committees, obtain external funding for IDBBC students, serve on IDBBC standing committees, or participate in the IDBBC Program in other significant ways, i.e., offering lab space or other resources to IDBBC students. Any ECU faculty with interests in life sciences research and education with a record of scholarly productivity may be eligible to mentor an IDBBC student.

Affiliated membership will be obtained by submitting a written application to the IDBBC director and followed by approval by the Ph.D. Degree Steering Committee. The application will contain a one-page statement of research and teaching interests related to the mission of IDBBC. Affiliated members will become core members once they serve as advisors of IDBBC students.

## **IV. Organization and Management**

### **A. Director**

The Director, under the guidance of the THCAS dean and designees, and with the assistance of the three concentration directors, has several roles in the IDBBC program. The Director is responsible for oversight institutional funding for student stipends, health insurance, tuition remissions, progress towards the degree, and other professional development. The Director generally helps to advance the mission of the program by:

- fostering the successful matriculation of all IDBBC students towards completion of their degree,
- overseeing recruitment and admissions in consultation with the IDBBC Admissions Committee,
- administering the admission of applicants to the IDBBC program, and responding to routine requests for program information and applications,
- coordinating core course scheduling in conjunction with the three concentrations,
- serving as a liaison between ECU's various departments, colleges, graduate school, and any other such agencies with which the graduate program comes into contact,
- scheduling and overseeing student advising sessions, assisting in scheduling core competency and qualifying examinations (written and oral), overseeing the IDBBC Admissions Committee, and mediating conflict resolutions involving graduate students,
- overseeing IDBBC students' academic records,
- assisting the Dean of the Graduate School and the Associate Deans of Graduate Studies and Research of THCAS and BSOM and faculty in program review, program assessment, curriculum development, student assessment, and keeping track of IDBBC graduate faculty rank/status,
- coordinating publication on the availability of ECU graduate scholarships and the selection of awardees,
- reviewing and signing official forms required by the Graduate School,
- certifying final degree checks and creating Graduation Summaries,
- overseeing the two IDBBC standing committees; the Admissions Committee the Ph.D. Degree Steering Committee and other ad hoc committees as needed, and
- facilitation review and revision of the Standard Operating Procedures, on an as-needed basis.

IDBBC faculty will elect and recommend an individual from THCAS to serve as the Director to the Dean of THCAS. Upon the Dean's approval, the appointed individual will serve as the Program

Director for three-year terms, renewable for one consecutive three-year term. The reporting structure for the faculty member serving as Director remains unchanged (he/she reports to the Unit Head of his or her tenure home unit). For the purpose of annual evaluations, the unit head will consult with the Dean of the Graduate School and deans or designees of participating colleges.

**B. Support staff (part-time):** The administrative staff will assist the IDBBC director in all aspects of the daily administration duties described above.

### **C. IDBBC Standing Committees**

All IDBBC Committees will have a majority of faculty from the three core concentrations; if appropriate, IDBBC Committees may have affiliated members as well. IDBBC committees serve in a primarily advisory capacity, making recommendations to the IDBBC Director, who in turn, consults with the Associate Deans of Graduate Studies and Research of THCAS and IDBBC faculty. The following sections describe each committee.

#### **1. Admission Committee**

The IDBBC admissions process is designed to ensure a fair and unbiased evaluation of all applications by multiple sources. Applications are evaluated on the demonstrated capabilities of the prospective student, the goodness of fit between the applicant and the IDBBC program, the potential of the applicant to succeed in the program, and the ability of the program, and other departments at ECU to provide funding for the applicant.

Review of applications to the IDBBC Program will begin on January 15th of every year on a rolling basis until the recruitment goal is achieved. The IDBBC Director will pass along completed applications to the Admissions Committee, which will be appointed annually by the IDBBC Director. The Admissions Committee will be composed of 6 people, including the graduate director of each concentration and a faculty representative, usually from the graduate committee of each concentration.

Each member of the IDBBC Admissions Committee is to read and evaluate each application packet. The applicant pool will be shared among the three concentrations and applications are to be distributed widely to IDBBC faculty through AppReview. The committee members are to solicit responses from the faculty to questions such as “are you interested in working with one of these individuals?”, “do you have funding for this person or do you have plans to sequester funding for the student?”. The members of the Admissions Committee are then asked to collate those responses and, in addition, use transcripts, letters of recommendation, the student’s statement of purpose, the student’s willingness to work with identified faculty, and the student’s academic credentials collectively to prioritize and rank the applicants. The Admissions Committee may also take into account a faculty advisor’s historical track record of funding IDBBC students and research productivity into the decision to accept a student applicant as that faculty member’s advisee. The rankings should also reflect the stated mission of the IDBBC program.

Within three weeks of having received the applications, the Admissions Committee will meet with the IDBBC Director. The Admissions Committee can then recommend acceptance or rejection of

specific applicants based on a collective discussion in conjunction with the IDBBC Director. The availability of funds will be communicated to the Departmental Chairs or equivalent academic unit heads where the funding was allotted. In general, the IDBBC Director will comply with the rankings made by the admissions committee. The final decision to accept or reject new applicants will be based on both the ranking and availability of academic year funding. Other than insufficient funding, under no circumstances should the IDBBC director decline an applicant that the Admissions Committee has prioritized for admission.

## *2. PhD Degree Steering Committee*

The IDBBC Ph.D. Degree Steering Committee will consist of seven members and the graduate school dean as an ex officio member: the IDBBC program director, and two representatives from each concentration, including concentration directors. The Committee will gather inputs and make recommendations of core courses, assure the sustainability of the curriculum, and provide strategic direction of program development. The Committee will assist the Program Director in writing an annual report.

The Committee will meet at least twice per semester and on an as-needed basis. The Committee will oversee the core curriculum to reflect the interdisciplinary nature of the program but still maintain the flexibility appreciated by students and faculty. The Committee will also address the adequacy of the curriculum in meeting students' needs. If students' needs are not adequately addressed by the current curriculum as determined by general IDBBC faculty, the IDBBC Director may ask for course instructors to evaluate and revise the course structure. Changes to the core curriculum must be approved by a simple majority of the IDBBC faculty after consultation with IDBBC-Affiliated faculty.

In consultation with the IDBBC Director, the Ph.D. Degree Steering Committee will:

- a. Provide guidelines with a clear schedule and checklist for all graduate students matriculating through the program.
- b. Oversee the development of an Individual Development Plan (IDP) by students to improve student success and professionalism.
- c. Coordinate curriculum development and evaluate current and proposed graduate courses for the IDBBC program optimization.
- d. Establish and develop interdisciplinary educational programs such as colloquia, seminars, and award ceremonies.
- e. Develop assessment instruments and coordinate assessment of student learning outcomes.
- f. Communicate with faculty and students concerning website maintenance and improvement.
- g. Provide oversight of each students' progress and status each semester and provide feedback and recommendations to students and their dissertation advisors.

**Tracking Student Progress:** All IDBBC faculty with current IDBBC students are responsible for tracking students' progress towards their degree with regular consultation with the Ph.D. Degree Steering Committee. Current IDBBC students must register for dissertation credits (9000) with their major professor or the IDBBC Director. Satisfactory progress towards the pursuit of their dissertation merits a grade of "Satisfactory (S)." If the major professor assesses that an IDPBBS student is not making satisfactory progress towards completion of their degree, then an "Unsatisfactory (U)" grade will be assigned. Three semesters of "U" grades for their dissertation credits will result in a student's dismissal from the program.

## **V. Amendment Procedures**

The Standard Operation Procedure can be amended at scheduled IDBBC faculty meetings by a 2/3 majority vote of full members. Any full member can propose an amendment, and the amendment must first be approved by the Ph.D. Degree Steering Committee. Amendments then should be made available to the full faculty members at least one week prior to a vote. All amendments must be approved by the Faculty Senate and the Chancellor. See the ECU Faculty Manual, Part IV.