# Plan for Diversity and Inclusion Department of Biological Sciences University of North Carolina at Charlotte

**Purpose**: The primary goal for this plan is to promote success of underrepresented minority (URM) doctoral students in the Department of Biological Sciences (DBS) in completing their PhD and preparing for faculty careers.

Students seeking a PhD in Biological Sciences are primarily from two departments: the Department of Biological Sciences (DBS) and the Department of Kinesiology. PhD students in DBS are also co-sponsored by additional departments (Chemistry, Physics and Optical Science) at the university as well as non- university institutions (hospitals). Thus, portions of this plan may reach graduate students and faculty in other departments, colleges, and institutions.

**Current diversity in the DBS PhD program**: The PhD program has had very few URM students in the PhD track in the previous five years and thus far none have completed a PhD degree. Because of the low numbers, there has not been an opportunity to robustly track the progression of URM students relative to students from well represented groups or to identify particular challenges or obstacles. Looking forward, the incoming cohort of graduate students in the fall of 2020 will increase diversity of the PhD program (two Hispanic). Recent changes to our graduate program are aimed to increase interest, recruitment and success of URM students. These changes include 1) increased stipends for graduate students, 2) elimination of the GRE score for application and evaluation of applications, and 3) increased emphasis on diversity on the department’s web page.

**Student and faculty assessment of obstacles for URM doctoral students in the program:** A survey was administered through Qualtrics in late 2019-early 2020 as a part of the evaluation of the AGEP NC Alliance to measure attitudes and perceptions of doctoral students about their graduate program. Due to the small number of responses (<5) of graduate students from the Department of Bioinformatics and Genomics, their responses were combined with Biological Sciences to form a group of life sciences students. The response rate for Biological Sciences was 50% (17 out of 34 students responding).

A number of specific obstacles and challenges were identified in the survey that are particularly concerning and may disproportionately impact URM students. The first obstacle for graduate students is the lack of funding and financial support. Previous research has shown that insufficient or unpredictable support limits the participation and decreases retention of URM students in STEM[1.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5008901/) Second, in an assessment of the qualities of the graduate program, among the poorest scoring areas was “environment in the department for minority students”. Although the survey did not separate responses from URM students in our program, the results from the “Cohort 1” survey from the three universities indicated that URM students are more likely to rate their working environment as “poor”, have poorer relationships with other graduate students, and feel less safe voicing their opinions to their advisors when compared with graduate students from well represented groups. These self-reported perspectives from URM students suggest a feeling of isolation because of an overall lack of a peer community and open communication with mentors, both of which have been shown to decrease success and retention in STEM[2](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3596157/). Thus, while the faculty may recognize the importance of diversity and inclusivity, and many have successfully mentored URM students at the undergraduate level, a deeper knowledge of the obstacles and mentoring skills at the graduate level will be beneficial as the PhD program becomes more diverse.

# Elements of the program that enhance the success of URM doctoral students:

# Annual Progress Reports. As part of the DBS Graduate Program all graduate students are required to complete an Annual Progress Report of their academic coursework and research progress. The Graduate Program Director reviews each student’s Annual Progress Report and meets with students if areas of concern are identified. Future years will include feedback by the GPD to the student and advisor via email.

# Advising. The Graduate Program Director provides coursework and research advising for graduate students during orientation week and throughout the first year if the student chooses a rotation track for their first year. They continue to provide support throughout the student’s graduate training as the neutral point of contact for conflict resolution and by holding students accountable for completing annual progress reports and qualifying examinations on schedule.

# Individual Development Plans. The department encourages all graduate students to work with their mentor(s) to complete IDPs annually. The forms, instructions, and value of IDPs are clearly described on a [dedicated page on the department’s website.](https://biology.uncc.edu/graduate/graduate-research/individual-development-plans-idp) The goals of using the IDP are facilitate communication and planning between graduate students and their mentors to: 1) help students evaluate their skills, values, and interests, 2) identify potential, preferred and alternative careers, and 3) set goals to progress through the graduate program and to prepare for careers. IDPs result in more effective communication, expectations, and accountability between students and their mentor to empower the students to take the lead in their training and career development.

# Graduate “Handbook”. The department’s policies and expectations are clearly defined and explained on the [department’s website](https://biology.uncc.edu/programs/graduate-programs). DBS has not maintained an updated handbook due to frequent small changes to the program and new opportunities. We have considered developing a handbook on expectations and general program progression and expectations modeled after the [handbook from the Department of Bioinformatics and Genomics.](https://cci.uncc.edu/sites/cci.uncc.edu/files/media/BCBPhDHandbook-UPDATED%20May%202018%20.pdf) If developed, this handbook may be a valuable resource in addition to the website for both faculty and students to ensure success by providing transparency.

# Student mentoring. Multiple levels of mentoring occur in the department to ensure success of students and faculty, including both formal and peer mentoring. For students, each incoming student is assigned a faculty mentor. This faculty member becomes the chair of the student’s committee and serves as a formal mentor as well as, in many cases, a personal and professional mentor. Graduate students are also encouraged to join the Association of Biological Sciences Graduate Students (ABSGS). This organization is their peer contact group for questions about anything related to academic, research, departmental or graduate life acclimation.

# Faculty mentoring. Pre-tenure faculty members are matched with two faculty mentors when they begin their faculty position. The first mentor is a tenured faculty member of the department. The second mentor is a tenured faculty member in a different department. The later mentor is arranged through UNC Charlotte’s ADVANCE office. Pre-tenure faculty also meet with the department chair at regular intervals to discuss progress and obstacles as they set up their labs, begin teaching in their second year, and recruit lab personnel. Faculty are also encouraged to participate in formal training for mentors (example, CIMER and Safe Zone) offered by the university.

# Seminars. Our department hosts a weekly external seminar series in which invited speakers present their research, meet with faculty, and attend lunch with the graduate students. Each graduate student presents one seminar or an open research proposal defense to practice delivery of a research- focused presentation as well as to present their research focus to their colleagues in the department. Seminars encourage networking, foster collegiality and build presentation skills.

# Actions to promote success of URM doctoral students in completing the PhD and preparing for faculty careers.

**Goals**: Our primary goal is to increase the success of URM doctoral students during their training in the department so that they are prepared for future careers in academia or other opportunities. This will require success in at least two initial areas: increase the diversity of our department and foster successful training through mentee-mentor interactions. We will build upon current initiatives to achieve faculty and student demographics that reflect the diversity of our undergraduate students and the community. This will require education and a long-term emphasis on following the best practices for recruitment, retention, and development of all members of the department, particularly graduate students. To achieve this goal, we aim to increase diversity and inclusivity awareness among the faculty as well as graduate and undergraduate students. Achieving this goal will require consistent efforts to build an inclusive and welcoming culture in the labs, classroom and department events, particularly focused on community building through increased interactions at all levels including: student-faculty, graduate-undergraduate, and MS-PhD graduate students.

**Opportunities**: NSF AGEP-NC faculty fellows from three North Carolina universities are developing departmental plans for increasing the success of URMs in doctoral programs. The Department of Biological Sciences (DBS) serves a diverse body of undergraduate students in a diverse local community. Because many of our graduate students are from North Carolina, we have an opportunity to meet our goal for more diversity in our PhD students by recruiting students locally and regionally. The college and university have a strong commitment to diversity and inclusion, with many available resources, events, and seminars, that DBS can continue to participate in. For the students entering or already present in the graduate program, many of our faculty participate in the excellent training opportunities from the university on the value of diversity in our programs and the benefits of inclusivity.

**Challenges**: Our faculty and graduate student populations have not mirrored the diversity of our undergraduates nor the community. As a department, we have not been intentional with best practices that attract and retain a diverse faculty and student body or methods to communicate and discuss the value of a more diverse department. As a department, we need to consistently demonstrate that we are strongly committed to diversity and inclusion at all levels in the department. The importance of diversity to the department can be emphasized through both short- and long-term commitments. The assessment of these activities in the long term will be shared by the Chair and the newly formed Committee for Diversity, Equity and Inclusion (DEI).

# Actions

1. Department Seminar Series. We will develop a plan with the department’s seminar committee (composed of two tenure-track faculty members) to prioritize URMs for the weekly invited seminar. Historically, the seminar series has not explicitly prioritized this when selecting external speakers. We can [model other universities](https://eos.org/opinions/whats-in-a-seminar) that have shown the importance of seminar series that emphasize diversity, equity and inclusion. We will also discuss the inclusion of seminar speakers on science communication and mentoring in science to complement the presenters focused on research-only themes.
2. Mentor-Mentee Communication. We will aim to increase the communication between faculty and graduate students on the issues and importance of a more diverse departmental community through a monthly brown-bag lunch. The topics of these meetings will be developed through department discussions and draw from the [excellent literature curated through #ShutdownSTEM](https://www.shutdownstem.com/resources).
3. Faculty Training and Lab Culture. Because many PhD students have their primary day-to-day contacts in the laboratory, we will increase the education of lab personnel and PIs through highlighting effective practices to maintain lab environments that better foster diversity. This goal will be initiated through a departmental discussion of the [activities and behaviors to create anti-](https://ecoevorxiv.org/4a9p8/) [racist environments](https://ecoevorxiv.org/4a9p8/). We will also work with the university to identify training workshops and opportunities to learn best practices and strategies related to anti-racism (similar to “[Safe Zone](https://identity.uncc.edu/education/safe-zone)” training for sexual orientation, gender identity, or gender expression). One possible existing opportunity is [White Consciousness Conversations.](https://identity.uncc.edu/education/white-consciousness-conversations) Another training workshop to consider is [Groundwater led by the Racial Equity Institute](https://www.racialequityinstitute.com/groundwaterapproach).
4. Graduate Student Peer-Peer Mentoring. A sense of community is important for graduate student success and current URM students have stated they feel less included in current STEM departments. The Graduate Program Director will work with the leadership of ABSGS to discuss plans for a potential peer mentoring group, perhaps where students in the program for one or more years become a mentor for incoming graduate students. The GPD will collaborate with the graduate student association to identify training programs and external conferences to increase student- student community, particularly for URM students. While there is no funding available for these activities at this time, the GPD will work with the Graduate School as well as submit external proposals in an effort to provide support.
5. Annual Merit Evaluations for Faculty. We will discuss a process to formally include commitment and successes to improve diversity in the department by adding a section to the department’s Annual Merit Review. This process will be initiated through a proposal to the Department Review Committee (DRC). This addition to faculty merit review will result in recognition of efforts to promote diversity and inclusivity in the department and show the value of this departmental goal by including as part of promotion and tenure evaluation. This addition to our annual merit evaluation will also reward URM faculty who are likely to have a high mentoring workload because they are sought out as mentors by URM graduate students. The assessment of annual merit forms, including the included components related to diversity, will be evaluated by the DRC each year.
6. Recruitment and Public Projection. North Carolina is home to 12 HBCUs and we will increase contact and collaboration with these academic institutions. Part of our recruitment strategy to include more diversity in our graduate program and faculty will include encouraging faculty to present a research talk at a NC HBCU followed by a discussion about opportunities to pursue PhD programs and faculty positions at UNC Charlotte. We will also increase resources, images, and success stories of our department with an emphasis on our students and faculty of color.
7. Diversity Statements. Diversity statements are standard components of applications for many academic positions. We require them for faculty applicants but have not discussed how to write them or evaluate them. We will work with the ADVANCE office and the Graduate School to bring training opportunities and resources to the department to discuss strategies for writing effective statements on diversity, equity and inclusion. Current faculty members would also be encouraged to participate in these training sessions and produce a diversity statement to be shared with their students and on their personal web sites.
8. Establish a Committee on Diversity, Equity and Inclusion for the Department of Biological Sciences. In order to maintain initiatives and to have a designated group of faculty for student contact, the department may form a Committee composed of faculty and graduate students. This action and any details would be initiated by the Chair. The assessment for the department’s diversity plan will be discussed and evaluated by the newly established DEI committee.