**Expectations of Students and Faculty for the Master’s Project**

The master’s project is a capstone experience in which students demonstrate mastery of the ABC’s of biostatistics: Analytical skills, Biological knowledge, and Communication skills. The project is completed with oversight of an examining committee consisting of an advisor and two other members. Two of the committee members must be B&B faculty. Staff scientists, for example from BERD, or faculty from other departments are sometimes allowed to serve on student committees with DGS approval. Students choose their master’s project topic based on their interests. The project can be tailored to meet students’ career or learning objectives. Some projects will resemble traditional theses (for example, for students who plan to pursue a PhD in biostatistics or a related field) while others will more closely resemble applied collaborative research projects (for example, for students who will seek employment after graduation). In all cases, the project should showcase a student’s ability to synthesize knowledge, solve problems, learn and discover things on their own, and collaborate with others.

The master’s project is typically started in the fall of the 2nd year of the MB program. The program administration tracks progress on the master’s project using a series of milestones: program approval of the student project (MP-1), examining committee approval of the proposal (MP-2), examining committee approval of the midterm progress report (MP-3 and MP-3A), and examining committee approval of the defense (MP-4). The program has the following minimum expectations for students and faculty who participate in the master’s project process.

Expectations of Faculty Advisors

* The faculty advisor must be from the Department of Biostatistics and Bioinformatics (B&B) unless otherwise approved by the DGS.
* The advisor has responsibility for overseeing mentoring activities for the student. Given that students have different needs, the specific tasks involved in this oversight activity are at the discretion of the advisor.
* Advisors are responsible for verifying with the other committee members that the student has achieved the program milestones, MP-1 through MP-4. Instructions are provided on the forms.
* Advisors are usually the student’s primary contact during the conduct of the project, although this need not be the case. For example, advisors may delegate responsibility to other committee members with specific subject matter expertise and conduct oversight through regular meetings.
* Advisors are expected to assist students in making a timeline for completing the project and meet regularly with students to track progress. We recommend meeting at least once per week early in the project with perhaps decreasing frequency later in the project if the student demonstrates adequate understanding and project performance.
* Advisors are responsible for overseeing the student evaluation process. Details of this are described below under Expectations of Faculty Committee Members.
* Advisors are encouraged to report to the DGS if student performance is not satisfactory no later than the date of the MP-3 (midterm progress report). The advisor should report any concerns to the program administration using the MP-3A form. Given the compressed time line for the MP, advisors are encouraged to report concerns even prior to the date of the MP-3 if possible. Program leadership can assist with making remediation plans if necessary.
* Advising students is time consuming and we recommend that faculty who are interested in advising multiple students identify ways to gain efficiencies, e.g., by holding “lab” meetings, leveraging the same dataset to provide different learning experiences for multiple students, etc.

Expectations of Faculty Committee Members

* Committee members are expected to provide subject matter expertise relevant to the project and to serve as a mentor to the student as required by the demands of the project and the student’s needs.
* Committee members are expected to approve the proposal (MP-2) and grade the student on their performance on the midterm progress report (MP-3) and final defense (MP-4).
* Grades are pass/fail and are based on criteria agreed upon by the examining committee prior to starting the project, i.e., at the proposal stage (MP-2).
* There must be unanimous agreement among the committee members for students to pass.
* Details concerning the expected degree of complexity of the projects are described below under Expectations of Students. In general, the projects are expected to be of sufficient complexity to demonstrate deep understanding of material – although not mastery – consistent with what might be expected of a junior statistical staff member working at a pharmaceutical company or contract research organization; or for a student who is adequately prepared to begin advanced studies in a PhD program in biostatistics or a related discipline. This typically requires some theoretical understanding of the basis for the work, even if that understanding is workmanlike and not comprehensive, as well as the ability to articulate the appropriateness of the selected methodology for the problem at hand, and to demonstrate ability to implement at least one solution to the problem. The MP is a time-compressed, mentored learning experience at the mid-graduate level and it should be recognized that students will not perform at the level expected of PhD students or experienced professionals.

Expectations of Students

* Successful completion of the master’s project is a graduation requirement for which credit is awarded by registration for two semesters of the BIOSTAT 720 course. Students are therefore expected to treat the master’s project with the same level of concern as their coursework.
* Students are expected to adhere to all requirements of the master’s project, including meeting the deadlines for the MP-1 through MP-4 milestones. Failure to meet these requirements will be treated as a professionalism issue in accordance with all applicable departmental and School of Medicine policies and procedures.
* Student projects must be of sufficient complexity to demonstrate mastery of the ABC’s of biostatistics at a level that is taught in the program courses. For example, an analysis that consists only of descriptive displays of data is unacceptable. Most projects will include a demonstration of at least one complex statistical method in addition to descriptive analyses. Students must be conversant in the methodology as well as the practical aspects of implementation. The degree of knowledge that qualifies as “conversant” in terms of methodology is agreed upon in advance by the student and the examining committee at the proposal stage (MP-2).
* Students are required to meet regularly with their advisor or advisor’s designee as they would be required to do so in a work environment, e.g., weekly project team meetings. The frequency and agenda of these meetings can be set jointly by the student and their advisor.
* Some advisors may mentor multiple students, and those students may work on different aspects of the same project. The degree of collaboration among students that is allowed is at the discretion of the advisor. But the program requires students to conduct their own work in accordance with the Duke Community Standard.
* Students should notify their examining committee and the program administration in advance if they cannot meet a required deadline, e.g., due to committee member availability for a meeting, complications related to the data collection for a project, or other unforeseen issues. Failure to provide such notification will be treated as a professionalism issue.
* Students may elect to perform simulations rather than real data analyses for their master’s project. *If this is the case*, *students must meet the program practicum requirement by analyzing a real dataset*. Students who work with a real dataset for the master’s project may meet the practicum requirement simultaneously with completion of the master’s project.