# Genetics, Genomics and Bioinformatics
## 2017-2018 MSTP Training Plan

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<th>Term</th>
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| **GS1**      | **Fall Term***<br>Required Coursework: <br>GRD 717: Principles of Sci Integrity (Bioethics)  <br>MSTP 798: Non-dissertation research  <br>Biostatistics Course (See Page 2)  <br>Elective/Advanced Course(s): A total of 3 advanced courses which should be decided by mentor and thesis committee. <br>Journal Club: Choice of JC is discretion of student/mentor  <br>Seminar: Participation/Attendance required  <br>-Registration not required | **Required Coursework (See MS2 Schedule):** <br>**We recommend the following GGB block:**  <br>GBS 724: Principles of Human Genetics (1.8.18 – 2.2.18)  <br>GBS 720: Genomic Structure/Function (2.5.18 – 3.2.18)  <br>GBS 722: Bioinformatics (3.5.18 – 3.30.18)  <br>GBSC 718: Epigenetics (4.2.18 – 4.27.18)  <br>MSTP 798: Non-dissertation research  <br>Elective/Advanced Course(s): A total of 3 advanced courses which should be decided by mentor and thesis committee.  <br>Journal Club: Choice of JC is discretion of student/mentor  <br>Seminar: Participation/Attendance required  <br>-Registration not required | **Required Coursework:**  <br>MSTP 799: Dissertation research **Qualifying Exam/Admission to Candidacy**  
**Committee Meeting**  
**Required Coursework:**  
MSTP 799: Dissertation research **Dissertation Defense** (public & private)  
Graduation | **Required Coursework:**  
MSTP 799: Methods & Scientific Logic  
MSTP 798: Non-dissertation research  
Elective/Advanced Course(s): A total of 3 advanced courses which should be decided by mentor and thesis committee.  
Journal Club: None  
Seminars: None  
Committee Meeting | **Required Coursework:**  
MSTP 799: Dissertati |
Biostatistics Courses available for MSTP Students:

GBSC 731: Introductory Biostatistics for Graduate Biomedical Sciences. - This course has been specifically designed for the GBS students. Fall.

Note: often BST 611 and 612 are taken together.

BST 611. Intermediate Statistical Analysis I. - Students will gain a thorough understanding of basic analysis methods, elementary concepts, statistical models and applications of probability, commonly used sampling distributions, parametric and non-parametric one and two sample tests, confidence intervals, applications of analysis of two-way contingency table data, simple linear regression, and simple analysis of variance. Students are taught to conduct the relevant analysis using current software such as the Statistical Analysis System (SAS). 3 hours. Fall.

BST 612. Intermediate Statistical Analysis II. - This course will introduce students to the basic principle of tools of simple and multiple regression. A major goal is to establish a firm foundation in the discipline upon which the applications of statistical and epidemiologic inference will be built. Prerequisite: BST 611 or Permission of Instructor. 3 hours. Spring.

Note: often BST 621 and 622 are taken together.

BST 621 - Statistical Methods I. - Mathematically rigorous coverage of applications of statistical techniques designed for biostatistics majors and others with sufficient mathematical background. Statistical models and applications of probability; commonly used sampling distributions; parametric and nonparametric one and two sample tests and confidence intervals; analysis of contingency tables; simple linear regression and analysis of variance. Prerequisites: A year of calculus and linear algebra. 3 hours. Fall.

BST 622 - Statistical Methods II. - Continuation of concepts in BST 621, extended to multiple linear regression; analysis of variance, analysis of covariance, multiple analysis of variance; use of contrasts and multiple comparisons procedures; simple and multiple logistic regression, and an introduction to survival analysis. Prerequisites: BST 621. 3 hours. Spring.