

Requirements for One-Year Master's Degree (42.5 credits) in Passing in Biostatistics for PHS PhD Students at SPH

In certain cases, the Biostatistics Department may entertain applications for a co-terminal SM 42.5 degree in Biostatistics from students enrolled in a PHS PhD program. The student would be required to fulfill the SM 42.5 degree requirements described below.

A total of 25 **ordinal** (SPH) credits in graded courses must be taken from the following list. BST 222 is required of all students. BST 222 and EPI 201 can be used to count for both a Biostatistics SM 42.5 and any other HSPH degree. BST 223 and BST 226 can be used to count for both a Biostatistics SM 42.5 and a PhD degree, unless taken as part of a previous SM HSPH degree program. Other than exceptions listed above, no course can be used to count toward a Biostatistics SM 42.5 and any other degree. In general, a PhD student who received a previous SM degree (BIO, CBQG, HDS) from the Department of Biostatistics would not be allowed to complete the SM1 in passing, but could be considered on a case-by-case basis.

A minimum grade of B must be earned in the all of the courses you plan to use towards the SM in Passing.

Students who are eligible and interested in pursuing a SM in Biostatistics during their PHS PhD should contact Jelena Follweiler (jtillots@hsph.harvard.edu) to learn more about the requirements. You need to send her your current CV, your unofficial transcripts from GSAS (and HSPH if you have received a Masters here), your Research Ethics certificate (RCR), and she will ask that you complete the degree program form, and send that as well.

Intermediate Biostatistics Courses (credits as listed by GSAS):

BST 222	Basics of Statistical Inference (4) – REQUIRED
BST 223	Applied Survival Analysis (4)
BST 226	Applied Longitudinal Analysis (4)
BST 227	Introduction to Statistical Genetics (2)
BST 228	Applied Bayesian Analysis (4)
BST 254 Sec 2	Design and Monitoring of Adaptive Clinical Trials (2)
BST 260	Introduction to Data Science (4)
BST 261	Data Science II (2)
BST 262	Computing for Big Data (2)
BST 263	Statistical Learning (4)
BST 267	Introduction to Social and Biological Networks (2)
BST 280	Introductory Genomics and Bioinformatics for Health Research (2)
BIOSTAT 281	Genomic Data Manipulation (4)
BST 283	Cancer Genome Data Science (4)

More Advanced Biostatistics Courses (credits as listed by GSAS):

BIOSTAT 230	Probability I (4)
BIOSTAT 231	Statistical Inference I (4)
BIOSTAT 232	Methods I (4)
BIOSTAT 234	Introduction to Data Structures and Algorithms (4)
BIOSTAT 235	Advanced Regression and Statistical Learning (4)
BIOSTAT 238	Advanced Topics in Clinical Trials (4)
BIOSTAT 240	Probability II (4)
BIOSTAT 241	Statistical Inference II (4)
BIOSTAT 244	Analysis of Failure Time Data (4)
BIOSTAT 245	Analysis of Multivariate and Longitudinal Data (4)
BIOSTAT 249	Bayesian Methods in Biostatistics (4)
BIOSTAT 282	Introduction to Computational Biology and Bioinformatics (4)

*Additional advanced and intermediate courses will be considered at the discretion of the faculty director.

Culminating experience: Working with a faculty member in the Department, students must write up a summary of a culminating research experience beyond standard course work, according to the requirements stated for the SM 42.5 in

the [Graduate Student Handbook](#) for the Master of Science in Biostatistics. An alternative is to have at least one of the three dissertation papers for which the student is first author include sufficiently advanced biostatistics applications or methods to serve in place of the above summary, and one member of the dissertation committee have an HSPH faculty appointment in Biostatistics.

The paper should be accompanied by a cover letter that demonstrates each of the specific competencies of the Master of Science program (Section 2.1 of the linked handbook) and that describes relevant Biostatistics or other quantitative courses that were useful for the work. We ask that the student send a draft cover letter about 6 months in advance of the final version so that Dr. Jeff Miller can review the draft, and give feedback about whether the paper is appropriate for the final submission.

Dr. Miller will review the summary or dissertation paper to ensure it meets the standards for the SM 42.5 with the other program co-director, Dr. Erin Lake, assisting when needed.

The application for the degree is now online in my.harvard, and instructions to apply are found [here](#). Remember that you will need to meet the SPH deadlines for applications for this degree.

Requirements for One-Year Master's Degree in Epidemiology for PhD Students at HSPH

In certain cases, the Epidemiology Department may entertain applications for an SM1 degree in Epidemiology from students enrolled in a PhD program based at HSPH (including PHS for those *not* in the Epidemiology field of study). The student would need to meet the eligibility requirements for the SM1 program (in this setting the concurrent PhD counts as the prior degree) and would be required to fulfill the SM1 degree requirements described below.

A total of 25 **ordinal** (HSPH) credits in Epidemiology courses must be taken and must include all 12.5 credits from the Core Epidemiology Courses below as well as 12.5 additional EPI credits from the Department's course listing (see Strongly Recommended courses). In addition, students must meet the intermediate or advanced Biostatistics requirement below. A minimum grade of B must be earned in all courses counted towards the SM in Passing. Credits are listed as HSPH credits.

Students who are eligible and interested in pursuing a SM in Epidemiology during their PhD should contact Eric DiGiovanni edigiova@hsph.harvard.edu to set up a meeting.

Core Epidemiology Courses (required)

- EPI 201: Introduction to Epidemiology (2.5)
- EPI 202: Elements of Epidemiologic Research (2.5)
- EPI 203: Study Design in Epidemiologic Research (2.5)
- EPI 289: Causal Inference (2.5)
- EPI 507: Genetic Epidemiology (2.5)

Total Credits – 12.5 credits

Strongly Recommended Courses

- EPI 215: Advanced Topics in Case Control and Cohort Studies (2.5)
- EPI 515: Measurement Error and Misclassification for Epidemiologists (1.25)
- EPI 207: Advanced Epidemiologic Methods (2.5)
- EPI 247: Epidemiologic Methods Development (2.5)

Epi Courses that **may not** be used toward the 25 credit requirement

- EPI 205: Practice of Epidemiology
- EPI 300 Level courses (research/independent study)
- EPI 900 level courses (practicum)

Biostatistics requirement: 5 credits in intermediate or advanced Biostatistics (must be taken for an ORDINAL grade) or equivalent

- BST 223 or BST 226: Applied Survival Analysis & Discrete Data (5)/ Applied Longitudinal Analysis (5)

OR

- 5 credits of Intermediate or advance Biostatistics coursework listed for the 1 year Master Degree in Biostatistics.

Culminating experience: Working with a supervising Epidemiology faculty member, students must complete the equivalent of a masters thesis required by our 80 credit master of science students. Please refer to section 9.3 in the [Department of Epidemiology student handbook](#) for further guidance. Students will need to submit a thesis proposal to the Department to receive approval on the topic and use of sufficient advance epidemiologic methods. For more information on the thesis proposal please contact Eric DiGiovanni (edigiova@hsph.harvard.edu). An alternative is to have at least one first-author dissertation paper that includes sufficiently advanced epidemiologic topic(s) or methods to serve in place of the above summary, and have the Epidemiology faculty member serve on the Dissertation Committee. Faculty in this role need to be approved by the department. The Epidemiology faculty member must approve the SM1 written work & Masters requirements checklist, which will then be reviewed by the Deputy Chair or Chair of the Epidemiology Department before submission to the HSPH Registrar's Office.