



HARVARD
T.H. CHAN
SCHOOL OF PUBLIC HEALTH
Department of Biostatistics

2020-2021

Graduate Student Handbook

**MASTER OF SCIENCE
IN BIostatISTICS**

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1 INTRODUCTION

This handbook describes the academic programs for the Master of Science in Biostatistics offered by the Department of Biostatistics at Harvard University. The Department offers courses of study leading to the Doctor of Philosophy and Master of Science degrees in Biostatistics. Both the Ph.D. and SM programs provide rigorous training in theory and practical experience in statistical and bioinformatics methods used in the biomedical sciences. Our programs are designed to prepare students for careers in the theory and practice of biostatistics, bioinformatics, and data science, especially as applied to the biomedical and health sciences. The Ph.D. program includes training in the application and development of methodology, consulting, teaching, and collaboration on a broad spectrum of health-related problems. The SM program includes training in designing research studies, analyzing and interpreting quantitative data, using modern computational methods, and collaboration and communication skills. There are opportunities for SM students to work with faculty on ongoing research projects and to serve as a teaching assistant for departmental courses. About seventy faculty participate in these programs. The Department also participates in separate Master of Science programs in Computational Biology and Quantitative Genetics and in Health Data Science.

The sections of this handbook include information and Departmental regulations concerning entrance requirements, program descriptions, degree requirements, and other Departmental policies for our Master of Science in Biostatistics programs. The Ph.D. Program is overseen by the Graduate School of Arts and Sciences and has a separate Graduate Student Handbook, whereas the SM degree is governed by the T.H. Chan School of Public Health. Policies and official requirements of the Graduate School of Arts and Sciences are set forth in the *Graduate School of Arts and Sciences Handbook* (<https://gsas.harvard.edu/policies>). Policies and official requirements of the School of Public Health are set forth in the *Harvard T. H. Chan School of Public Health Student Handbook* (<https://www.hsph.harvard.edu/student-handbook/>). Each graduate student is responsible for general knowledge of, and adherence to, the policies and requirements of the degree program in which the student is enrolled. Additional departmental information is available at <https://www.hsph.harvard.edu/biostatistics/>. Vitally important for our community is that all members demonstrate respect for each other and our discipline. For all members of the community, respect is demonstrated by attending all scheduled classes or meetings, and arriving on time, fully prepared, and ready to participate.

This handbook was prepared by the Program Directors, and approved by the Executive Committee. The Directors are responsible for reviewing the student's program of study, and have the authority to consider exceptions to the rules and regulations established by the Department. Recommendations of the Directors are forwarded to the Executive Committee for final approval. The Directors and the Department Chairs welcome suggestions and comments.

PROGRAM LEADERSHIP AND ADMINISTRATION

Executive Committee

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Websites

[Masters of Science in Biostatistics Handbook](#)
[Department of Biostatistics](#)

2 THE MASTER OF SCIENCE PROGRAMS

The Master of Science programs in Biostatistics train students in the basics of statistical theory, methods in planning studies, conducting analyses, and writing reports, the interpretation of numeric data for scientific inference in studies in medicine and public health, and the ability to collaborate and communicate effectively with scientists in related disciplines. Application areas include observational studies, clinical trials, computational biology and quantitative genomics, statistical genetics, and medical and public health research, among other areas.

The Department of Biostatistics offers several Master of Science programs, with the appropriate program dependent on the student's background and interests. The two-year Master of Science (SM2) degree provides training in statistical theory and a variety of statistical, computational, bioinformatics, and data science methods for application in medicine and public health. The SM2 program is appropriate for students considering doctoral level work or Master's level medical research or industry positions upon completion. The one-year Master of Science (SM1) degree is designed for students with a prior graduate degree and the mathematical and statistical background sufficient to achieve a level of proficiency after one year of study comparable to that obtained in the SM2 program. The 60-credit Master of Science (SM60) degree has an applied emphasis and is designed for students seeking medical research or industry positions in biostatistics upon completion.

All Master of Science programs in Biostatistics prepare students in four specific competencies:

1. Designing research studies in medicine and public health, including study design and population selection, sample size justification, data analysis plans, methods of data acquisition and organization, data management methods, data analysis plans, and protocol development.
2. Analyzing and interpreting quantitative data for scientific inference, including graphical and tabular displays, descriptive statistics, statistical inference, and choice of appropriate statistical software for the data analysis.
3. Using modern computational methods to effectively analyze complex medical and public health data, including regression methods, survival data analysis, bioinformatics, and statistical genetics.
4. Collaborating and communicating effectively with research scientists in related disciplines.

The SM1 and SM2 programs in Biostatistics have a fifth specific competency:

5. Using probabilistic and statistical reasoning and theory to effectively analyze non-standard problems arising in medicine and public health and assisting biostatistical researchers in the conduct of methodologic research. This competency is demonstrated through the completion of a Culminating Experience (Section 2.6.2, Section 2.8.2).

The SM60 program in Biostatistics also has a fifth specific competency:

5. Disseminating new knowledge in a research discipline through the preparation of written reports of biostatistical analyses, comparison of different statistical methodologies, and oral presentation of results. This competency is demonstrated through the completion of a Master's Thesis and Collaborative Research Practicum (Section 2.7.2).

Specific program requirements are described in the following pages. Some requirements are common to all Master of Science programs, while others are specific to the degree program.

2.1 Admissions Procedures and Requirements

2.1.1 Harvard T. H. Chan School of Public Health Requirements

Application for admission to the SM program is available online on the Admissions Office website (<https://www.hsph.harvard.edu/admissions/admissions/how-to-apply/application-requirements/>). For information on general requirements for admission, contact the Admissions Office by phone (617/432-1031) or through their website (<https://www.hsph.harvard.edu/admissions/>).

2.1.2 Departmental Requirements

All candidates for admission to the SM programs should have successfully completed calculus through multivariable integration and one semester of linear algebra. Knowledge of a programming language is also required. Evidence that these requirements have been fulfilled should form part of the application. In addition, applicants are encouraged to have completed courses in probability, statistics, advanced calculus, and numerical analysis. Practical knowledge of a statistical computing package such as R, SAS, Stata, or SPSS is also desirable. Additional background in advanced mathematics, regression methods, biology, and computing using a scripting language such as Python or Perl or relational databases as well as prior research experience can also be beneficial.

Students who have a Master's degree in one of the mathematical sciences or a doctorate in a quantitative field may be qualified for a one-year SM program. To be admitted, applicants must have a mathematical and statistical background sufficient to achieve a level of proficiency after one year of study comparable to that achieved by the two-year program.

2.2 Intra/Inter-departmental Biostatistics Degree Program Switch Protocol

The Department of Biostatistics, and several other academic departments at the School (such as Epidemiology), offer master's degree programs. These programs each have their own goals and requirements and make independent decisions about admissions. Students should carefully choose the program to which they apply and we expect students admitted to a program to meet the requirements of that program.

However, we recognize that the interests of some students may change during their time in graduate school. Therefore, the Department has established the following procedure for students applying for a change in program. This applies to students applying for a switch within the Department of Biostatistics, or between the Department of Biostatistics and another department at the School, such as Epidemiology. Please note that transfers between programs are not automatic and may not be approved, and if a student has received a scholarship or other funds from a degree program, that funding will not transfer to the new degree.

1. Students must complete at least one full semester of coursework before applying for a program transfer.
2. Students must enroll in and successfully pass any required coursework for their current program before beginning the transfer process. Please see your current degree program handbook for a list of required coursework. Students may also need to complete coursework in their proposed program so as to not fall behind in requirements to finish their program on time if approved for transfer.
3. Students must complete and submit a formal [application](#) and include an updated statement of purpose describing the reason for seeking a program transfer, current CV and one letter of recommendation.
4. The Directors of department Master's programs, including the Directors of the student's current program and prospective program, will schedule an interview with the students to assess their application. At the meeting, students will provide a copy of their CV and statement of purpose to the program director(s), and will briefly explain their decision to apply for a transfer. The Directors will consider

the applications and render a decision whether to approve or deny the transfer. These meetings will be scheduled in early January for students applying for transfer to start in the Spring semester, and in late May for students applying to transfer after the Spring semester.

5. The Directors will discuss and notify the student of their decision with three days. All decisions are final.
6. If approved, completed paperwork must be submitted to the Registrar's Office, and then to the Senior Manager of Academic Services.

Note that all program transfers are at the discretion of the Program Directors and are not guaranteed. If approved, students will be assigned a new academic advisor affiliated with the chosen degree program. It is the responsibility of the students to ensure that they complete all requirements for their degree program.

2.3 Curricular Practical Training (CPT) Approval for Students with F-1 Visas

To be considered CPT, the work must not only be related to the student's major field of study but must also be an integral part of an established curriculum. Before seeking off-campus internship opportunities, students are required to discuss their plans with Elizabeth Capuano (see contact info below) from the Harvard International Office to determine their CPT eligibility. Please note that CPT eligibility may be impacted by the March 2020 guidance issued by the Department of Homeland Security - Student Exchange Visitor Program.

There are two ways in which students are eligible for CPT:

1. Employment that is a required part of a degree program, such as a required internship or practicum. This requirement must be formally documented in school publications, such as a student handbook.
2. Employment that is not required by a degree program, but for which a program will award academic credits. This could include training courses such as a field studies course, an independent study course that is based on an internship.

Our program does not offer the first option above. However, we do allow the second option with approval from either of the program directors. International students who wish to pursue this option **MUST** speak with Elizabeth Capuano elizabeth.capuano@harvard.edu, our representative at the Harvard International Office (HIO), **before beginning interview processes** at prospective internship sites to discuss the requirements for CPT authorization. Students should also speak to one of the directors about whether their employment would qualify for academic credits, as the academic credits are required for CPT authorization. If CPT eligibility is established, please note that students **MUST** obtain CPT authorization **PRIOR** to beginning the internship.

The most up-to-date information about CPT will be found here:
<http://www.hio.harvard.edu/curricular-practical-training-cpt>.

2.4 Advising and Degree Program Approval

2.4.1 Academic Advisor

The Program Directors provide guidance and assistance to all Biostatistics SM students and can be approached with any questions a student may have. In addition, all entering students are assigned an academic advisor to help plan course loads and explain Departmental requirements. At the earliest possible date, the student and the academic advisor will develop a program of study. Should a student wish to change his/her academic advisor, he or she is encouraged to discuss this with the Program Directors. In addition, the Department and SPH provide services for all students with clinically documented learning and/or physical disabilities.

2.4.2 Departmental Approval of Program

The Master's program plan must be submitted to the Department for approval, using the Master's Degree Program form specific to the student's degree provided by the Department. The program must be approved by the student's faculty advisor and the Program Directors. This plan should be submitted at least one semester prior to the expected graduation date for Master's students.

2.4.3 Epidemiology Requirement

The School of Public Health requires that Master's students must successfully pass one Epidemiology course. The Department requires that EPI 201 be taken to satisfy this requirement. Ordinarily, this is taken during the first semester in residence. Any change from that requires the approval of the Program Director.

2.4.4 Public Health Practice Requirement

Students may be required to take a public health course by the School of Public Health as part of their accreditation requirements. These requirements will be communicated to all incoming students by the School of Public Health directly.

2.4.5 Research Ethics Requirement

Students must satisfy a research ethics requirement by completing a course in responsible conduct of research or by completing an online training course during the first year in the program. Students who feel they have already completed an equivalent training program must submit adequate documentation to, and receive approval from, the Program Directors during the first semester in residence.

2.5 Satisfactory Progress Requirements

For students in the SM2 program, a minimum of 60 ordinal credits is required by SPH (we require 50 of those from our core - Section 2.6.1). For students in the SM60 program, a minimum of 45 ordinal credits is required by SPH (we require 40 of those from our core - Section 2.7.1). For students in the SM1 program, a minimum of 30 ordinal credits is required by SPH (we require 25 of those from our core - Section 2.8.1).

In addition, SPH students must remain in good academic standing, must complete program requirements within the designated time to degree, and must maintain a cumulative average of 2.70 or above. All ordinal grades for courses used to satisfy Departmental requirements specified in Sections 2.6.1, 2.7.1, 2.8.1 (depending on your program) must be at the level of B- or higher. Courses taken on a pass/fail basis cannot be used to satisfy ordinally graded Departmental requirements.

A detailed presentation of SPH's regulations for Master's students is found at <https://www.hsph.harvard.edu/student-handbook/>. All Master's students and their advisors should make sure that SPH and Departmental requirements are met according to schedule.

2.6 Degree Requirements for the Two-Year SM (SM2) in Biostatistics

A total of 80 credits are required for the SM2 program. The SM2 program is aimed at students who are considering doctoral level work in biostatistics, statistics, bioinformatics, or allied fields such as epidemiology, environmental health, or medicine. The SM2 program is also appropriate for students seeking to take more varied and advanced courses but who are considering Master's level medical research positions upon completion.

2.6.1 Course Requirements for the SM2 in Biostatistics

SM2 students can develop a flexible program in statistical methods, statistical theory, statistical computing, bioinformatics, and health decision sciences, depending on the student's background and interests.

Specific requirements of the program include the following 10 credits of required ordinarily graded courses:

- BST 210 Applied Regression Analysis (5 credits)
- BST 222 Basics of Statistical Inference (5 credits)

In addition, students select a minimum of 40 credits of ordinarily graded courses from the two-year Biostatistics Master's core (at least 25 credits must come from courses with a BST prefix), including:

- BST 212 Survey Research Methods in Community Health (2.5 credits)
- BST 214 Principles of Clinical Trials (2.5 credits)
- BST 216 Introduction to Quantitative Methods for Monitoring and Evaluation (2.5 credits)
- BST 217 Statistical & Quantitative Methods for Pharmaceutical Regulatory Services (2.5 credits)
- BST 223 Applied Survival Analysis (5 credits)
- BST 226 Applied Longitudinal Analysis (5 credits)
- BST 227 Introduction to Statistical Genetics (2.5 credits)
- BST 228 Applied Bayesian Analysis (5 credits)
- BST 230 Probability I (5 credits)
- BST 231 Statistical Inference I (5 credits)
- BST 232 Methods I (5 credits)
- BST 234.1 Introduction to Data Structures and Algorithms [Part 1] (2.5 credits)
- BST 234.2 Introduction to Data Structures and Algorithms [Part 2] (2.5 credits)
- BST 235 Advanced Regression and Statistical Learning (5 credits)
- BST 238 Advanced Topics in Clinical Trials (2.5 credits)
- BST 249 Bayesian Methods in Biostatistics (5 credits)
- BST 260 Introduction to Data Science (5 credits)
- BST 261 Data Science II (2.5 credits)
- BST 262 Computing for Big Data (2.5 credits)
- BST 263 Statistical Learning (5 credits)
- BST 267 Introduction to Social and Biological Networks (2.5 credits)
- BST 273 Introduction to Programming (2.5 credits)
- BST 280 Introductory Genomics & Bioinformatics for Health Research (2.5 credits)
- BST 281 Genomic Data Manipulation (5 credits)
- BST 282 Introduction to Computational Biology and Bioinformatics (5 credits)
- BST 283 Cancer Genome Data Science (5 credits)
- EPI 511 Advanced Population and Medical Genetics (5 credits)
- GHP 525 Econometrics for Health Policy (5 credits)
- ID 271 Advanced Regression for Environmental Epidemiology (2.5 credits)
- RDS 280 Decision Analysis for Health and Medical Practices (2.5 credits)
- RDS 282 Economic Evaluation of Health Policy and Program Management (2.5 credits)
- RDS 284 Decision Theory (5 credits)
- RDS 285 Decision Analysis Methods in Public Health and Medicine (2.5 credits)
- RDS 500 Risk Assessment (2.5 credits)
- SBS 263 Multilevel Statistical Methods: Concept and Application (5 credits)

Other advanced courses in Biostatistics, including many of the special topics or Wintersession courses, and courses at MIT and the Faculty of Arts and Sciences (FAS) that are offered at an advanced level, may also be acceptable with the approval of the Program Directors. If you need cross-registration credit conversion, see: <https://www.hsph.harvard.edu/r-o-student-knowledge-center/>. Students are advised to consult with the Program Directors prior to enrolling in the courses in question.

Students can then choose electives depending on their background and interests. Students are strongly encouraged to take appropriate training in areas of application such as the biological sciences, biophysics, cancer, computational biology, environmental health, epidemiology, health policy, infectious diseases, international health, nutrition, psychiatry, social health, or other allied fields to prepare them for interdisciplinary

collaborative research. Some students may wish to supplement their training by including additional courses in advanced mathematics or computer science.

2.6.2 Culminating Experience for the SM2 in Biostatistics

SM2 students must write up a summary of a culminating research experience that has been performed beyond standard course work. This could involve activities arising from a research assistantship, summer internship, independent study, job experience while a student in the program, or related work. The summary should be approximately 6-8 double-spaced pages excluding tables, figures, and references. An alternative approach is to create a presentation of the summary material in poster or slide set form or the submission of a complete draft manuscript for which the student is the primary author.

In the summary, the student should include the development of an appropriate research question, the statement of hypotheses, development and implementation of an analysis plan, and summary of findings. The purpose is to integrate knowledge acquired in Biostatistics coursework with general knowledge in medicine and public health, to show skills in the analysis and interpretation of quantitative data, to use modern computational methods to effectively analyze non-standard problems, and to demonstrate effective collaboration and communication skills. It is important for the written summary or other alternative materials to demonstrate each of the specific competencies of the Master of Science program (Section 2). A student should also describe relevant Biostatistics or other quantitative courses that were useful for the work.

The due date is the first of the month approximately 6-8 weeks prior to the graduation date (e.g., April 1 for May graduates). Your summary should be submitted electronically to the Program Directors and the Senior Manager of Academic Services by this date. The summary will be reviewed by a committee of two faculty members, chaired by either of the Program Directors. The focus of the review will be the demonstration of the competencies above. A written evaluation will be provided to the student. The Program Directors can be consulted if there are any questions regarding this culminating research experience summary.

2.7 Degree Requirements for the 60-credit SM (SM60) in Biostatistics

The SM60 program has an applied emphasis and is geared toward students with an undergraduate degree in one of the mathematical sciences or an allied field (e.g., biology, psychology, or economics). At least 40 credits of course work are required, including 20 credits of required courses and a minimum of 15 credits of elective Biostatistics courses. The program culminates with a Master's thesis and oral defense, summarizing work accomplished during a collaborative research practicum. The SM60 program is aimed at students seeking a terminal Master's degree. Typically of 17 months duration (though dependent on how long the student takes to finish and defend their Master's thesis), the focus of the SM60 program is on training graduates for applied biostatistics positions involving medical or epidemiologic research in academic hospitals, universities, research organizations, and the pharmaceutical and biotechnology industries.

2.7.1 Course Requirements for the SM60 in Biostatistics

A total of 60 credits are required for the SM60 degree. SM60 students follow a structured program of required courses, and then choose electives depending on the student's background and interests. Specific requirements of this program include the following 20 credits of required ordinally graded courses:

- BST 210 Applied Regression Analysis (5 credits)
- BST 222 Basics of Statistical Inference (5 credits)
- BST 223 Applied Survival Analysis (5 credits)
- BST 226 Applied Longitudinal Analysis (5 credits)

In addition, students select a minimum of 15 credits of intermediate or advanced ordinally graded courses in Biostatistics to round out their program. At least 10 of these credits should have a BST prefix and at most 5 of these credits can come from relevant courses in computer science, risk and decision sciences, statistics, or quantitative epidemiology, with the approval of the Program Directors. Students are advised to consult with the Program Directors prior to enrolling in the courses in question.

2.7.2 Thesis Requirements for the SM60 in Biostatistics

An SM60 student must complete a 10-20 credit ordinarily graded Master's Thesis and Collaborative Research Practicum (BST 325), usually taken after the required course work has been completed. This will typically involve data analysis for a research project under the direction of one or more mentors. The project could be supervised primarily by a faculty member in Biostatistics, or co-supervised by a doctoral-level investigator (at Harvard or elsewhere) and a faculty member in Biostatistics.

In this Collaborative Research Practicum, a student will perform activities related to the design, conduct, and analysis of research studies with a focus on data analysis and scientific presentation. The student will carry out an extensive data analysis, often including data summaries and graphical displays, regression methods, data interpretation, and comparison of alternative methods. Usually these projects will involve interacting with a group of people with varied disciplinary backgrounds. The student will then write a Master's thesis of approximately 20-25 double-spaced pages excluding tables, figures, and references that describes the medical or public health problem of interest, summarizes the appropriate data analyses, and provides a scientific interpretation of the data, in a standard scientific writing style. The student will also orally present this work in a seminar of approximately 30 minutes in length. The Master's thesis and oral presentation will primarily be the work of the student, with only advisory input from the mentor(s). This work serves as the Culminating Experience for SM60 students.

The Master's thesis and oral presentation will be evaluated by a review committee consisting of three members. The members will include the student's Practicum mentor(s), either or both of the Program Directors, and other Biostatistics faculty members or surrogates as needed. The Master's thesis must be submitted to the review committee at least two weeks prior to the oral presentation. A written evaluation will be provided to the student.

2.8 Degree Requirements for the One-Year SM (SM1) in Biostatistics

Students who have a Master's degree in one of the mathematical sciences or a doctorate in a quantitative field may be qualified for the one-year Master's program. To be admitted, applicants must have a mathematical and statistical background sufficient to achieve a level of proficiency after one year of study comparable to that achieved by the two-year program.

2.8.1 Course Requirements for the SM1 in Biostatistics

A total of 42.5 credits are required for the one-year Master's program. Specific requirements of the program include the following 5 credits of required ordinarily graded courses:

BST 222 Basics of Statistical Inference (5 credits)

In addition, students select a minimum of 20 credits of ordinarily graded courses must be taken from the one-year Biostatistics Master's core, including:

BST 214 Principles of Clinical Trials (2.5 credits)

BST 216 Introduction to Quantitative Methods for Monitoring and Evaluation (2.5 credits)

BST 217 Statistical & Quantitative Methods for Pharmaceutical Regulatory Services (2.5 credits)

BST 223 Applied Survival Analysis (5 credits)

BST 226 Applied Longitudinal Analysis (5 credits)

BST 227 Introduction to Statistical Genetics (2.5 credits)

BST 228 Applied Bayesian Analysis (5 credits)

BST 230 Probability Theory and Applications I (5 credits)

BST 231 Statistical Inference I (5 credits)

BST 232 Methods I (5 credits)

BST 234.1 Introduction to Data Structures and Algorithms [Part 1] (2.5 credits)

BST 234.2 Introduction to Data Structures and Algorithms [Part 2] (2.5 credits)

| | | |
|-----|-----|--|
| BST | 235 | Advanced Regression and Statistical Learning (5 credits) |
| BST | 238 | Advanced Topics in Clinical Trials (2.5 credits) |
| BST | 249 | Bayesian Methods in Biostatistics (5 credits) |
| BST | 256 | Theory & Methods for Causality I (2.5 credits) |
| BST | 257 | Theory & Methods for Causality II (2.5 credits) |
| BST | 260 | Introduction to Data Science (5 credits) |
| BST | 261 | Data Science II (2.5 credits) |
| BST | 262 | Computing for Big Data (2.5 credits) |
| BST | 263 | Statistical Learning (5 credits) |
| BST | 267 | Introduction to Social and Biological Networks (2.5 credits) |
| BST | 280 | Introductory Genomics & Bioinformatics for Health Research (2.5 credits) |
| BST | 281 | Genomic Data Manipulation (5 credits) |
| BST | 282 | Introduction to Computational Biology and Bioinformatics (5 credits) |
| BST | 283 | Cancer Genome Data Science (5 credits) |

Other advanced courses in Biostatistics, including many of the special topics or Wintersession courses, and courses at MIT and the Faculty of Arts and Sciences (FAS) that are offered at an advanced level, may also be acceptable, provided that least 15 credits come from courses with a BST prefix. If you need cross-registration credit conversion, see: <https://www.hsph.harvard.edu/r-o-student-knowledge-center/>. Students are advised to consult with the Program Directors prior to enrolling in the courses in question.

2.8.2 Culminating Experience for the SM1 in Biostatistics

SM1 students must write up a summary of a culminating research experience that has been performed beyond standard course work. This could involve activities arising from a research assistantship, summer internship, independent study, job experience while a student in the program, or related work. The summary should be approximately 6-8 double-spaced pages excluding tables, figures, and references. An alternative approach is to create a presentation of the summary material in poster or slide set form or the submission of a complete draft manuscript for which the student is the primary author.

In the summary, the student should include the development of an appropriate research question, the statement of hypotheses, development and implementation of an analysis plan, and summary of findings. The purpose is to integrate knowledge acquired in Biostatistics coursework with general knowledge in medicine and public health, to show skills in the analysis and interpretation of quantitative data, to use modern computational methods to effectively analyze non-standard problems, and to demonstrate effective collaboration and communication skills. It is important for the written summary or other alternative materials to demonstrate each of the specific competencies of the Master of Science program (Section 2). A student should also describe relevant Biostatistics or other quantitative courses that were useful for the work.

The due date is the first of the month approximately 6-8 weeks prior to the graduation date (e.g., April 1 for May graduates). Your summary should be submitted electronically to the Program Directors and the Senior Manager of Academic Services by this date. The summary will be reviewed by a committee of two faculty members, chaired by either of the Program Directors. The focus of the review will be the demonstration of the competencies above. A written evaluation will be provided to the student. The Program Directors can be consulted if there are any questions regarding this culminating research experience summary.

Students who are earning the SM1 degree in Biostatistics along the way to a doctoral degree in another department may be able to submit one of their dissertation papers to satisfy the culminating experience requirement, provided the paper has advanced biostatistical methods employed. The paper should also be accompanied by a cover letter that demonstrates each of the specific competencies of the Master of Science program (Section 2) and that describes relevant Biostatistics or other quantitative courses that were useful for the work.

2.9 Biostatistics SM Program for Students in the PhD Programs at SPH

In certain cases, the Department may entertain applications for the SM1 program in Biostatistics from students already enrolled in a PhD program affiliated with faculty at Harvard Chan. The student would need to meet the eligibility requirements for the SM1 program and would be required to fulfill the SM1 degree requirements described above, following all Harvard Chan guidelines. Further information is available from the Program Directors.

A **BIostatISTICS MASTER'S DEGREE FORMS**

- **Biostatistics SM2 Degree Program Form**
https://content.sph.harvard.edu/biostats/publications/bio-sm_handbook/SM2_Degree_Form_BIO.pdf
- **Biostatistics SM60 Degree Program Form**
https://content.sph.harvard.edu/biostats/publications/bio-sm_handbook/SM60_Degree_Form.pdf
- **Biostatistics SM1 Degree Program Form**
https://content.sph.harvard.edu/biostats/publications/bio-sm_handbook/SM1_Degree_Form.pdf
- **Biostatistics SM60 Thesis Committee Nomination Form**
https://content.sph.harvard.edu/biostats/publications/bio-sm_handbook/Thesis_Committee_Nomination_Form.pdf
- **Biostatistics SM60 Thesis Defense Scheduling Form**
https://content.sph.harvard.edu/biostats/publications/bio-sm_handbook/Thesis_Defense_Scheduling_Form.pdf