

# MASTER OF SCIENCE IN THE FIELD OF BIOSTATISTICS

The following requirements must be fulfilled: 36 credits, including 9 credits in core courses, 16 credits in biostatistics-specific courses, 7 credits in elective courses, 3 credits in advanced biostatistics selective courses, and 1 credit in research or thesis courses.

Code	Title	Credits
<b>Required core courses</b>		
9 credits		
PUBH 6080	Pathways to Public Health <sup>1</sup>	0
PUBH 6862	Applied Linear Regression Analysis for Public Health Research	3
PUBH 6864	Applied Survival Analysis for Public Health Research	0,3
PUBH 6865	Applied Categorical Data Analysis for Public Health Research	3
<b>Required biostatistics courses</b>		
16 credits		
PUBH 6866	Principles of Clinical Trials	0,3
PUBH 6867	Health Data Visualization	3
PUBH 6869	Principles of Biostatistical Consulting	1
PUBH 6886	Statistical and Machine Learning for Public Health Research	0,3
PUBH 6887	Applied Longitudinal Data Analysis for Public Health Research	3
PUBH 8870	Statistical Inference for Public Health Research I	3
<b>Electives</b>		
7 credits in pre-approved courses selected from the list below. Other courses can be approved by the advisor.		
PUBH 6850	Introduction to SAS for Public Health Research	1
PUBH 6851	Introduction to R for Public Health Research	0,1
PUBH 6852	Introduction to Python for Public Health Research	1
PUBH 6854	Applied Computing in Health Data Science	0,3
PUBH 6856	Advanced SAS for Public Health Research	0,1

PUBH 6860	Principles of Bioinformatics	0,3
PUBH 6863	Applied Meta-Analysis	1
PUBH 8888	Advanced Topics in Clinical Trials	2
STAT 6197	Fundamentals of SAS Programming for Data Management	3
STAT 6215	Applied Multivariate Analysis I	3

### Advanced biostatistics selective course

3 credits in courses selected from the list below. Additional courses taken from this list beyond the 3 credits required can be counted toward the elective requirement.

PUBH 8871	Statistical Inference for Public Health Research II	3
PUBH 8875	Linear Models in Biostatistics (permission of instructor required)	3
PUBH 8879	An Introduction to Causal Inference for Public Health Research	0,3
PUBH 6899	Topics in Biostatistics and Bioinformatics (Neural Networks in Biomedical Research)	3
PUBH 6899	Topics in Biostatistics and Bioinformatics (Advanced Survival Analysis—sections 1, 2, 3)	1 credit per section

### Final research project

1 credit (one course) selected from the following:

PUBH 6897	Research in Biostatistics and Bioinformatics	1-4
PUBH 6898	Master of Science Thesis (only for students who wish to complete a formal thesis)	1-3

<sup>1</sup>Students without a prior degree from a Council on Education for Public Health (CEPH)-accredited school or program of public health must successfully complete the 0-credit PUBH 6080 Pathways to Public Health within one year of matriculation. There is no fee for this course.