



**RICHARD M. FAIRBANKS
SCHOOL OF PUBLIC HEALTH**

INDIANA UNIVERSITY
Indianapolis

To: IUPUI Graduate Affairs Committee

From: Carole Kacius, PhD *Carole Kacius*
Associate Dean for Education and Training

Date: April 25, 2016

Re: Curricular Changes to the MS Degree in Biostatistics

Faculty members in the Department of Biostatistics recently reviewed the existing curriculum for the MS in Biostatistics. They determined that several changes were needed to better align the curriculum with the needs of employers. As a result, we are requesting that the following curricular changes be approved by the GAC: (1) increase the required core courses from 21 credits to 24 credits, (2) reduce the number of required credits in epidemiology from 6 credits to 3 credits, and (3) increase the number of elective credits from 6 credits to 12 credits. For comparison purposes, listed below is the revised curriculum followed by the original curriculum.

Revised Curriculum

MS Biostatistics Core Courses (Students Take All 7 Courses for a Total of 24 Credits)

STAT 519	Introduction to Probability	3 Credits
STAT 528	Mathematical Statistics I	3 Credits
PBHL B571	Biostatistics Method I Linear Model in Public Health	4 Credits
PBHL B572	Biostatistics Method II Categorical Data Analysis	4 Credits
PBHL B573	Biostatistics Method III Applied Survival Data Analysis	4 Credits
PBHL B574	Biostatistics Method IV Applied Longitudinal Data Analysis	3 Credits
PBHL B581	Biostatistics Computing	3 Credits

Required Public Health Course (3 Credit hours)

PBHL B670	Introduction to Public Health	3 Credits
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Required Epidemiology Course (3 Credit hours)

PBHL E517	Fundamentals of Epidemiology	3 Credits
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Elective Courses (Up to 12 credit hours)

Any relevant courses upon departmental approval.

MS Competence Evaluation

All students must undergo a MS competency evaluation. There are two options for the evaluation. All students must either take a written MS exam for the required courses taken in the first year or write a Master's thesis. **Exam:** The MS Exam will be held in the summer and it consists of two parts: Theory and Application. Theory exam covers the materials from Stat 519 and Stat 528. Application exam covers the materials from Biost Method I and Biost Method II. Students are recommended to take the exam after year one in the program and will be given the second chance to pass at the end of year two if failed in the first time. **Thesis:** The Master's thesis is a data analysis project or substantive methodology research with a written report. A student who selects this option for the MS competency evaluation needs to identify a faculty mentor from the Department of Biostatistics and work on a project under the faculty's supervision for 6 credit hours. When the thesis is completed, the student will then present his or her work orally in a public forum.

Original Curriculum

MS Biostatistics Core Courses (Students Take All 7 Courses for a Total of 21 Credits)

STAT 519	Introduction to Probability	3 Credits
STAT 528	Introduction to Mathematical Statistics I	3 Credits
PBHL B641	Linear Model in Public Health	3 Credits
PBHL B642	Applied Survival Data Analysis for Public Health	3 Credits
PBHL XXXX	Introduction to Statistical Computing	3 Credits
PBHL B644	Applied GLM and Longitudinal Data Analysis in Public Health	3 Credits
PBHL B581	Biostatistics Computing	3 Credits

Required Public Health Course (3 Credit hours)

PBHL XXXX	Introduction to Public Health	3 Credits
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Required Epidemiology Courses (6 Credit hours)

PBHL E517	Fundamentals of Epidemiology	3 Credits
PBHL P601	Advanced Epidemiology	3 Credits

Elective Courses (6 credit hours)

Any relevant courses upon departmental approval.

MS Competence Evaluation

All students must undergo a MS competency evaluation. There are two options for the evaluation. All students must either take a written MS exam for the required courses taken in the first year or write a Master's thesis. **Exam:** The MS Exam will be held right after the spring semester and it consists of two parts: Theory and Application. Theory exam covers the materials from Stat 519 and Stat 528. Application exam covers the materials from Biost Method I and Biost Method II. Students are recommended to take the exam after year one in the program and will be given the second chance to pass at the end of year two if failed in the first time. **Thesis:** The Master's thesis is a data analysis project or substantive methodology research with a written report. A student who selects this option for the MS competency evaluation needs to identify a faculty mentor from the Department of Biostatistics and work on a project under the faculty's supervision for 6 credit hours. When the thesis is completed, the student will then present his or her work orally in a public forum.