

## 2015-2016 Curriculum Guide for Master of Public Health degree program with a specialization in Biomedical Informatics

The Master of Public Health (MPH) degree program is designed to provide students with the knowledge and skills for general and specialized applied public health practice, both in the public sector and in private sector careers related to population health. It includes courses within public health's core disciplines of biostatistics, environmental health science, epidemiology, health behavior & health promotion, and health services management and policy. This broad training is complemented by the more in-depth course work within the specialization including a practicum and culminating experience. The BMI specialization is intended for students whose interests in Biomedical Informatics (BMI) are oriented towards professional practice within the public health and/or healthcare domains.

Students admitted to the Master of Public Health (MPH) degree program are assigned a faculty advisor who will provide guidance throughout the program. This document serves as a resource to be used by the student and the advisor in planning a program with a specialization in Biomedical Informatics, but is not inclusive of all important degree, college, and university requirements. All students are expected to be familiar with the College of Public Health (CPH) [Graduate Student Handbook](#) and with the [Graduate School Handbook](#).

### PROGRAM OF STUDY

The MPH-BMI curriculum consists of a minimum of 48 credits organized into five curricular domains:

1. Core courses in areas of knowledge basic to public health (15 credits)
2. Specialization + Selective courses in biomedical informatics (19 credits)
3. Elective courses (9 credits)
4. Practicum (2 credits)
5. Culminating project (3 credits)

#### Public Health Core Courses (15 credits)

Every student in the MPH-BMI program must take the following courses in areas of knowledge basic to public health:

<b>Biostatistics</b> PUBHBIO 6210	Design and Analysis of Studies in the Health Sciences	3 credits
<b>Environmental Health Sciences</b> PUBHEHS 6310	Principles of Environmental Health Science	3 credits
<b>Epidemiology</b> PUBHEPI 6410	Principles of Epidemiology	3 credits
<b>Social and Behavioral Sciences</b> PUBHHBP 6510	Preventing Disease and Promoting Health through Behavioral Science	3 credits
<b>Health Services Administration</b> PUBHHMP 6610	Introduction to Health Care Organization	3 credits

#### BMI Specialization courses (19 credits)

PUBHBIO 6211	Design & Analysis of Studies in the Health Sciences II	3 credits
BMI 5710	Introduction to Biomedical Informatics	3 credits
BMI 5740	Introduction to Research Informatics	3 credits
BMI 5760	Introduction to Public Health Informatics	3 credits
BMI 7840	Advanced Topics in Biomedical Data Management	3 credits
BMI 7891	Seminars in Biomedical Informatics	2 credits
Varies	Ethics course in Biomedical Research	2 credits

#### Recommended Electives\*\* (9 credits)

BMI 5720	Introduction to Imaging Informatics	3 credits	BMI 7810	Adv. Topics in Clinical Informatics	3 credits
BMI 5730	Introduction to Bioinformatics	3 credits	BMI 7820	Biological & Medical Image Analysis	3 credits
BMI 5750	Methods in Biomedical Informatics	3 credits	BMI 7830	Systems Biology	3 credits

PUBHBIO 6212	Regression Methods for Health Science	3 credits	PUBHEPI 6401	Health Data Sources and Uses	3 credits
PUBHHMP 7605	Introduction to Health Policy	3 credits	PUBHHBP 7534	Research Methods in HBHP	3 credits
PUBHHMP 7678	Intro Health Services Research	3 credits	PUBHEPI 6431	Design& Implt. Health Surveys	3 credits
PUBHHMP 7682	Information Sys Health Serv Org	3 credits	CSE 4221	Intro to Object Oriented (OO) Prgmg	3 credits
PUBHBIO 6270	Intro SAS for Public Health Students	2 credits	CSE 5331	Data Structures & Algorithms	2 credits
PUBHBIO 7220	Applied Logistic Regression	3 credits	CSE 5231	Software Engineering Techniques	2 credits
PUBHBIO 7225	Survey Sampling Methods	3 credits	CSE 5232	Software Requirements Analysis	2 credits
PUBHBIO 7235	Applied Survival Analysis	3 credits	CSE 5241	Introduction to Database Systems	2 credits
PUBHEPI 6412	Prin Clinical & Translational Science	2 credits	CSE 5243	Introduction to Data Mining	3 credits
PUBHEPI 6413	Conduct. & Comm. Research in CTS	2 credits	CSE 5521	Survey of Artificial Intel I: Basic Tech	2 credits
			CSE 5522	Survey of Artificial Intel II: Adv Tech	3 credits
			CSE 5531	Introduction to Cognitive Science	3 credits

**\*\*Students with a background in public health or medicine are encouraged to focus on computer science (CSE) electives to enhance their computational abilities. Similarly, students with backgrounds in computer science, electrical engineering, or information technology are encouraged to focus their electives to enhance their understanding of medicine and public health. Students should work with staff and faculty advisors in the Department of Biomedical Informatics to identify suitable electives.**

### **Practicum**

PUBHLTH 7189 Practicum in Public Health 2 credits

### **Culminating Project**

PUBHLTH 7998 Culminating Project in Public Health 3 credits

### **Sample Curriculum Plan for the Master of Public Health in Biomedical Informatics<sup>1</sup>**

<b>Year 1 Autumn</b>	PUBHBIO 6210	Design and Analysis of Studies in the Health Sciences I	3 credits	AU, SP*
	PUBHHBP 6510	Preventing Disease and Promoting Health through Behav Sci	3 credits	AU, SP
	PUBHHMP 6610	Introduction to Health Care Organization	3 credits	AU
	BMI 5710	Introduction to Biomedical Informatics	3 credits	AU, SP
	BMI 7891	Seminar in Biomedical Informatics	0-1 credit	AU, SP
<b>Year 1 Spring</b>	PUBHBIO 6211	Design & Analysis of Studies in the Health Sciences II	3 credits	SP
	PUBHEPI 6410	Principles of Epidemiology	3 credits	AU, SP
	BMI 5740	Introduction to Research Informatics	3 credits	SP
	BMI 7891	Seminar in Biomedical Informatics	0-1 credit	AU, SP
<b>Year 1 Summer</b>	PUBHLTH 7189	Practicum	2 credits	ANY
	ELECTIVES		3 credits	
<b>Year 2 Autumn</b>	BMI 5760	Introduction to Public Health Informatics	3 credits	AU
	BMI 7840	Advanced Topics in Biomedical Data Management	3 credits	AU
	ELECTIVE		3 credits	ANY
	BMI 7891	Seminar in Biomedical Informatics	0-1 credit	ANY
	ETHICS COURSE	Consult with advisor to determine course	2 credits	ANY
<b>Year 2 Spring</b>	PUBHLTH 7998	Culminating Project in Public Health	3 credits	ANY
	PUBHEHS 6310	Principles of Environmental Health Science	3 credits	AU, SP
	ELECTIVE		3 credits	AU, SP
	BMI 7891	Seminar in Biomedical Informatics	0-1 credit	ANY

\*SP offerings is only offered as a web-based course

### **Grade Policy:**

In addition to the general Graduate School requirements of a cumulative grade point average of 3.0 or higher, students must meet specific college policies regarding grades in Core and specialization courses. Students should familiarize themselves with Section 11 of the College of Public Health Graduate Student Handbook.

### **Office of Academic Programs and Student Services (OAPSS)**

OAPSS staff are available to provide assistance with College, Graduate School and University policies and procedures.

Students can make an appointment with a staff member in OAPSS by calling (614) 292-8350.

OAPSS address: 100 Cunz Hall/1841 Neil Ave/Columbus, Ohio/ 43210/cph.osu.edu

<sup>1</sup> A sample 3 year program is available by request from the Department of Biomedical Informatics. Please contact [bmi.education@osumc.edu](mailto:bmi.education@osumc.edu)