

## 2014-2015 Curriculum Guide for Master of Public Health degree program with a specialization in Biomedical Informatics

The Master of Public Health (MPH) degree 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* (available at <http://cph.osu.edu/students/graduate/handbooks>) and with the *Graduate School Handbook* (available at <http://www.gradsch.ohio-state.edu/>).

### 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 minimum)
5. Culminating project (3 credits minimum)

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

#### 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 or PUBHLTH 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 cr	BMI 7830 Systems Biology	3 cr
BMI 5730 Introduction to Bioinformatics	3 cr	PUBHBIO 6212 Regression Methods for Hlth Sci	3 cr
BMI 5750 Methods in Biomedical Informatics	3 cr	PUBHHMP 7605 Introduction to Health Policy	3 cr
BMI 7810 Adv. Topics in Clinical Informatics	3 cr	PUBHHMP 7678 Intro Health Services Research	3 cr
BMI 7820 Biological & Medical Image Analysis	3 cr	PUBHHMP 7682 Information Sys Hlth Serv Org	3 cr

PUBHBIO 6270 Intro SAS for Public Hlth Students	3 cr	CSE 4221 Intro to Object Oriented (OO) Prgmg	3 cr
PUBHBIO7220 Applied Logistic Regression	3 cr	CSE 5331 Data Structures & Algorithms	2 cr
PUBHBIO7225 Survey Sampling Methods	3 cr	CSE 5231 Software Engineering Techniques	2 cr
PUBHBIO7235 Applied Survival Analysis	3 cr	CSE 5232 Software Requirements Analysis	2 cr
PUBHEPI 6412 Prin Clin & Translational Sci (CTS)	2 cr	CSE 5241 Introduction to Database Systems	2 cr
PUBHEPI 6413 Conduct. & Comm. Research in CTS	2 cr	CSE 5243 Introduction to Data Mining	2 cr
PUBHEPI 6401 Health Data Sources and Uses	3 cr	CSE 5521 Survey of Artificial Intel I: Basic Tech	2 cr
PUBHHBP 7534 Research Methods in HBHP	3 cr	CSE 5522 Survey of Artificial Intel II: Adv Tech	2 cr
PUBHEPI 6431 Des.&Implt. Health Surveys	3 cr	CSE 5531 Introduction to Cognitive Science	3 cr

\*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 Semester</b>		
Course Number	Credit Hours	Semesters Offered
PUBHBIO 6210	3	AU, SP
PUBHHBP 6510	3	AU, SP
PUBHHMP 6610	3	AU, SP
BMI 5710	3	AU
BMI 7891	0-1	AU, SP

<b>Year 2 Autumn Semester</b>		
Course Number	Credit Hours	Semesters Offered
BMI or PUBHLTH 5760	3	AU
BMI 7840	3	AU
ELECTIVE	3	AU
BMI 7891	0-1	AU, SP
ETHICS	2	ANY

<b>Year 1 Spring Semester</b>		
Course Number	Credit Hours	Semesters Offered
PUBHEPI 6410	3	AU, SP
PUBHBIO 6211	3	SP
BMI 5740	3	SP
BMI 7891	0-1	SP, AU

<b>Year 2 Spring Semester</b>		
Course Number	Credit Hours	Semesters Offered
PUBHLTH 7998	3	ANY
ELECTIVE	3	AU, SP
BMI 7891	0-1	AU, SP
PUBHEHS 6310	3	AU, SP

<b>Year 1 Summer Term</b>		
Course Number	Credit Hours	Semesters Offered
PUBHLTH 7189	2	ANY
ELECTIVE	3	

### **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

1 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)