

## 2018-2019 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*: <http://cph.osu.edu/students/graduate/handbooks> the *Graduate School Handbook*: <http://www.gradsch.ohio-state.edu/> and the CPH competencies: <https://go.osu.edu/competencies>.

### 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 courses (19-20 credits)
3. Elective courses (8-9 credits)
4. Practicum (2 credits)
5. Culminating project (3 credits)

#### Required Core Courses (15 credits)

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

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

#### Required Specialization courses (19-20 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 7000+	Advanced Coursework in Biomedical Informatics	3 credits
BMI 7891	Seminars in Biomedical Informatics	2 credits

#### Ethics course requirement Select one course:

BIOETHIC 6010	Biomedical Research Ethics	3 credits
BIOPHARM 7510	Professional and Ethical Issues in Biomedical Sciences	2 credits
NURSING 7781	Responsible Conduct of Research	3 credits
SURGERY 8814	Responsible Conduct of Research: Human Participants and the Use of Animals in Biomedical Research	2 credits

### **Recommended Electives\*\* (8-9 Credits)**

BMI 5730	Introduction to Bioinformatics	3 credits	BMI 8040	Special Topics in Clin. & Transl. Informatics	Varies
BMI 5750	Methods in Biomedical Informatics	3 credits	BMI 8050	Special Topics in Biomed Data Sci	Varies
BMI 5770	Health Analytics	3 credits	BMI 8130	Analysis and Applications of Genome-Scale Data	3 credits
BMI 7040	Clinical Informatics	3 credits	BMI 8150	Rigorous and Reproducible Design & Data Analysis	3 credits
BMI 7810	Design and Methodological Approaches in BMI	3 credits	PUBHBIO 6212	Regression Methods for the Health Sciences	3 credits
BMI 7830	Adv. Topics in Bioinformatics	3 credits	PUBHBIO 6270	Intro to SAS for Pub Hlth Students	2 credits
BMI 8030	Special Topics in Comp. Biol	Varies	PUBHHMP 7678	Approaches to Health Services Research	3 credits
PUBHEPI 6412	Prin Clinical & Transl. Science	3 credits	PUBHHMP 7682	Info Sys for Health Service Org	3 credits
PUBHEPI 6413	Conduct & Comm Research in CTS	2 credits	CSE 5231	Software Engineering Techniques	2 credits
PUBHEPI 6431	Design & Implement Health Surveys	3 credits	CSE 5241	Introduction to Database Systems	2 credits
CSE 5522	Survey of Artificial Intel II: Adv Tech	3 credits	CSE 5521	Survey of Artificial Intel I: Basic Tech	2 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 (2 credits)**

PUBHLTH 7189	Practicum in Public Health	2 credits
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### **Culminating Project (3 credits)**

PUBHLTH 7998	Culminating Project in Public Health	3 credits
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### **Sample Curriculum Plan for the Master of Public Health in Biomedical Informatics**

<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
	ELECTIVE		3-4 credits	ANY
<b>Year 2 Autumn</b>	BMI 5760	Introduction to Public Health Informatics	3 credits	AU
	BMI 7000+	Advanced Biomedical Informatics Coursework	3 credits	AU
	ELECTIVE		3-4 credits	ANY
	BMI 7891	Seminar in Biomedical Informatics	0-1 credit	ANY
	ETHICS COURSE		2-3 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		3-4 credits	ANY
	BMI 7891	Seminar in Biomedical Informatics	0-1 credit	ANY

### **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.

### **College of Public Health - Office of Academic Programs and Student Services (OAPSS)**

OAPSS staff are available to provide assistance with College, Graduate School and University policies and procedures. (614) 292-8350/100 Cunz Hall/1841 Neil Ave/Columbus, Ohio/ 43210/cph.osu.edu