THE OHIO STATE UNIVERSITY
COLLEGE OF PUBLIC HEALTH

THE OHIO STATE UNIVERSITY
COLLEGE OF MEDICINE

2024-2025 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. This is not considered an on-line degree program; however, students will enroll in a combination of courses designed for on-campus in-person delivery (IP), distance learning (DL), or hybrid (HY). 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:* https://gradsch.osu.edu/handbook and the CPH competencies: https://go.osu.edu/competencies.

PROGRAM OF STUDY

The MPH-BMI curriculum consists of a minimum of 45 credit hours organized into five curricular domains:

1. MPH Integrated Foundational curriculum including the Buck-IPE* (12 credit hours)
2. Specialization courses (19-20 credit hours)
3. Elective courses (8-9 credit hours)
4. Applied Practice Experience (2 credit hours)
5. Integrative Learning Experience (3 credit hours)

*In addition to credit hour requirements, The Ohio State University College of Public Health requires all Master of Public Health students to participate in interprofessional practice and education activities. To meet this requirement, first-year students will participate in Buck-IPE, a longitudinal curriculum for students in health science and allied health professional programs at The Ohio State University. Information about participation and assessment will be shared with MPH students as part of the Integrated Foundational Curriculum (in PUBHLTH 6002 and 6004).

MPH Integrated Foundational curriculum‡ (12 credit hours)

Every student in the MPH-BMI program must take the following MPH Integrated Foundational curriculum:

PUBHTLH 6001	Methods in Quantitative Data Analysis	4 credit hours
PUBHLTH 6002	History, Values and Essential Services of the U.S. Public Health System	2 credit hours
PUBHLTH 6003	Methods in Public Health Planning and Evaluation	2 credit hours
PUBHLTH 6004	Essentials of Population Health	4 credit hours

Required Specialization courses (19-20 credit hours)

PUBHBIO 6211	Applied Biostatistics II	3 credit hours
BMI 5710	Introduction to Biomedical Informatics	3 credit hours
BMI 5740	Introduction to Research Informatics	3 credit hours
BMI/PUBHLTH 5760	Public Health Informatics	3 credit hours
BMI 7000+	Advanced Coursework in Biomedical Informatics	3 credit hours
BMI 7891	Seminars in Biomedical Informatics	2 credit hours

Ethics course requirement - Select one course:

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

Recommended Electives (8-9 credit hours)**

Course	Course Title	Cr Hrs	Course	Course Title	Cr Hrs
BMI 5551	Survey of AI/ML in Digital Health	3	BMI 7810	Research Design & Method Approaches	3
BMI 5552	AI/ML Applications in Medical Imaging	3	BMI 7830	Systems Biology	3
BMI 5553	Predictive Analytics in Electronic Health Records	3	BMI 8030	Special Topics in Comp. Biol	Varies
BMI 5554	Natural Language Processing in Biomedical Research	3	BMI 8130	Analysis and Applications of Genome-Scale Data	3
BMI 5730	Introduction to Bioinformatics	3	BMI 8140	Measuring patient experiences and preferences	3
BMI 5750	Methods in Biomedical Informatics	3	BMI 8150	Rigorous and Reproducible Design & Data Analysis	3
BMI 5770	Health Analytics: Data to Discovery to Dissemination	3	PUBHBIO 6250	Regression Methods for the Health Sciences	3
BMI 5780	Programming for BMI	3	PUBHBIO 6270	Intro to SAS for Pub Hlth Students	2
BMI 7040	Clinical Informatics	3	PUBHHMP 7678	Approaches to Health Services Research	4
BMI 7050	Meta-Analysis in Health Science Research	3	PUBHHMP 7682	Info Sys for Health Service Org	3
BMI 7235	Applications if Machine Learning for Bioinformatics	3	CSE 5231	Software Engineering Techniques	2
BMI 7530	Proteomics Data Analysis	3	CSE 5241	Introduction to Database Systems	2
PUBHEPI 6412	Basic Prin Clinical & Transl. Science	2	CSE 5521	Survey of Artificial Intel I: Basic Tech	2
PUBHEPI 6413	Conduct & Comm Research in CTS	2	CSE 5522	Survey of Artificial Intel II: Adv Tech	3
PUBHEPI 6431	Design & Implement Health Surveys	3			

*** Students should work with staff and faculty advisors in the Department of Biomedical Informatics to identify suitable electives.*

Applied Practice Experience

PUBHLTH 7189 Applied Practice Experience in Public Health 2 credit hours

Integrative Learning Experience

PUBHLTH 7998 Integrative Learning Experience in Public Health 3 credit hours

Sample Curriculum Plan for the Master of Public Health in Biomedical Informatics

TERM	COURSE	COURSE TITLE	CREDIT HRS	TERM(S) OFFERED	DELIVERY MODE
Year 1 Autumn	PUBHLTH 6001	Methods in Quantitative Data Analysis	4	AU	DL
	PUBHLTH 6002	History, Values & Essential Services U.S. PH System	2	AU	DL
	BMI 5710	Introduction to Biomedical Informatics	3	AU	DL
	BMI 7891	Seminar in Biomedical Informatics	0-1	AU, SP	DL
Year 1 Spring	PUBHLTH 6003	Methods in Public Health Planning and Evaluation	2	SP	DL
	PUBHLTH 6004	Essentials of Population Health	4	SP	DL
	PUBHBIO 6211	Applied Biostatistics II	3	AU, SP	IP or DL
	BMI 5740	Introduction to Research Informatics	3	SP	
	BMI 7891	Seminar in Biomedical Informatics	0-1	AU, SP	
Year 1 Summer	PUBHLTH 7189	Applied Practice Experience	2	ANY	
	ELECTIVE	Recommend: BMI 5750 Methods in Biomedical Informatics	3	ANY	DL
Year 2 Autumn	BMI/PUBHLTH 5760	Public Health Informatics	3	AU	DL
	BMI 7000+	Advanced Biomedical Informatics Coursework	3	AU	
	ELECTIVE		3-4	ANY	
	BMI 7891	Seminar in Biomedical Informatics	0-1	ANY	
	ETHICS COURSE		2-3	ANY	
Year 2 Spring	PUBHLTH 7998	Integrative Learning Experience in Public Health	3	ANY	
	ELECTIVE		3-4	ANY	
	BMI 7891	Seminar in Biomedical Informatics	0-1	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 Foundation and specialization courses. Students should familiarize themselves with Section 12 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.
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