

# PUBLIC HEALTH - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY

This program delivers students with a well-rounded understanding of the role that Epidemiology and Public Health play in medicine, nursing, allied or other health professions.

The Bachelor of Science in Public Health and Master of Public Health in Epidemiology 5-year combined degree program is more than a means to produce next-level Epidemiologists. It will deliver graduates who immediately impact the field of Epidemiology.

The undergraduate component of the program is based on a philosophy of health promotion and disease prevention, to improve the quality of life of individuals, families and communities through education and program intervention. The BSPH discipline focuses on four areas:

- the determinants of health, including biological, environmental, sociocultural, health service, and economic factors,
- identification of scientific data, tools of informatics, and other information for identifying factors that both foster and hinder the health and well-being of individuals and communities,
- addressing major local, state, national, and global health challenges, and
- designing public health approaches and interventions that improve health outcomes, population health, and well-being.

The MPH in Epidemiology focuses on the distributions and determinants of disease (or health-related outcomes) among populations and the methods employed to describe them. Students leave the MPH in Epidemiology program with the ability to understand and develop evidence-based public health research, policy, and practice.

The MPH in Epidemiology prepares students to:

- Select epidemiologic methods that are appropriate to address epidemiologic content areas.
- Analyze strengths and limitations of study designs for providing evidence for causal associations.
- Apply appropriate advanced data analysis and management techniques to analyze epidemiologic data.
- Assess and compare different reporting formats to communicate epidemiologic data to a variety of audiences.
- Explain the role of epidemiology in developing, implementing, and evaluating health policy.

The graduate MPH component is a non-thesis degree program with culminating experiences as part of the degree requirements. Students will participate in a practicum demonstrating overall public health problem-solving skills and complete a rigorous capstone class.

The coursework for this program will qualify students to be able to sit for the Certified Health Education Specialist (CHES (<https://www.nchec.org/ches/>)) exam and the Certified in Public Health (CPH (<https://www.nbphe.org/>)) exams.

## Program Requirements

The following is a suggested schedule that includes the required courses for the combination BS and MPH in Public Health-Epidemiology. It is recognized that many students will change the sequence and number of courses taken in any semester. Deviations from the the prescribed course sequence, however, should be made with care to ensure that prerequisites for all courses are met.

### First Year

#### Fall

		Semester Credit Hours
BIOL 111	Introductory Biology I	4
Select one of the following:		3
COMM 203	Public Speaking	
COMM 205	Communication for Technical Professions	
COMM 243	Argumentation and Debate	
ENGL 103 or ENGL 104	Introduction to Rhetoric and Composition <sup>1</sup> or Composition and Rhetoric	
ENGL 203	Writing about Literature	
ENGL 210	Technical and Professional Writing	
Select one of the following:		3
MATH 140	Mathematics for Business and Social Sciences	
MATH 142	Business Calculus	
MATH 147	Calculus I for Biological Sciences	
MATH 148	Calculus II for Biological Sciences	
MATH 151	Engineering Mathematics I	
MATH 152	Engineering Mathematics II	
MATH 168	Finite Mathematics	
MATH 171	Calculus I	
MATH 172	Calculus II	
PHIL 240	Introduction to Logic	
STAT 201	Elementary Statistical Inference	
Social and behavioral sciences ( <a href="https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences">https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences</a> )		3

#### Semester Credit Hours

13

### Spring

BIOL 112	Introductory Biology II	4
Select one of the following:		3
COMM 203	Public Speaking	
COMM 205	Communication for Technical Professions	
COMM 243	Argumentation and Debate	
ENGL 103 or ENGL 104	Introduction to Rhetoric and Composition <sup>1</sup> or Composition and Rhetoric	
ENGL 203	Writing about Literature	
ENGL 210	Technical and Professional Writing	
Select one of the following:		3
MATH 140	Mathematics for Business and Social Sciences	
MATH 142	Business Calculus	

MATH 147	Calculus I for Biological Sciences	
MATH 148	Calculus II for Biological Sciences	
MATH 151	Engineering Mathematics I	
MATH 152	Engineering Mathematics II	
MATH 168	Finite Mathematics	
MATH 171	Calculus I	
MATH 172	Calculus II	
PHIL 240	Introduction to Logic	
STAT 201	Elementary Statistical Inference	
Creative arts ( <a href="https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts">https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts</a> )		3
<b>Semester Credit Hours</b>		<b>13</b>
<b>Second Year</b>		
<b>Fall</b>		
CHEM 119	Fundamentals of Chemistry I	4
POLS 206	American National Government	3
American history ( <a href="https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a> )		3
General electives <sup>2</sup>		6
<b>Semester Credit Hours</b>		<b>16</b>
<b>Spring</b>		
POLS 207	State and Local Government	3
American history ( <a href="https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a> )		3
Language, philosophy and culture ( <a href="https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture">https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture</a> )		3
General electives <sup>2</sup>		6
<b>Semester Credit Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
PHLT 302	Foundations of Public Health <sup>3</sup>	3
PHLT 303	Social Context of Population Health <sup>3</sup>	3
PHLT 304	Biological Basis of Public Health Diseases & Disorders <sup>3</sup>	3
PHLT 310	Public Health Writing <sup>3</sup>	1
PHLT 313	Health Care and Public Health System <sup>3</sup>	3
PHLT 316	Public Health Data Management and Assessment <sup>3</sup>	3
<b>Semester Credit Hours</b>		<b>16</b>
<b>Spring</b>		
PHLT 305	Epidemiology in Public Health <sup>3</sup>	3
PHLT 311	Narrative Approach to Public Health <sup>3</sup>	1
PHLT 330	The Environment and Public Health <sup>3</sup>	3
PHLT 411	Project Management in Public Health <sup>3</sup>	3
PHLT 412	Health Advocacy and Policy <sup>3</sup>	3
Directed electives <sup>3,4</sup>		3
<b>Semester Credit Hours</b>		<b>16</b>

**Fourth Year****Fall**

PHEB 602	Biostatistics I <sup>3</sup>	3
PHLT 441	Strategies for Population Health Improvement <sup>3</sup>	3
SOPH 601	Health Behavior <sup>3,5</sup>	3
SOPH 602	Health Policy and Management <sup>3,5</sup>	3
SOPH 603	Epidemiology <sup>3,5</sup>	3
<b>Semester Credit Hours</b>		<b>15</b>

**Spring**

PHEB 603	Biostatistics II <sup>3</sup>	3
PHEB 605	Epidemiologic Methods I <sup>3</sup>	3
PHEB 612	Data Management / Computing <sup>3</sup>	3
PHLT 410	Public Health Communication <sup>3</sup>	3
PHLT 445	Applications of Public Health <sup>3</sup>	3
PHLT 481	Seminar <sup>3</sup>	1
<b>Semester Credit Hours</b>		<b>16</b>

**Summer**

PHEB 684	Practicum <sup>3,5</sup>	3
<b>Semester Credit Hours</b>		<b>3</b>

**Fifth Year****Fall**

PHEB 609	Categorical Data Analysis <sup>3</sup>	3
PHEB 610	Epidemiologic Methods II <sup>3</sup>	3
PHEB 615-627 ( <a href="https://catalog.tamu.edu/graduate/course-descriptions/pheb/">https://catalog.tamu.edu/graduate/course-descriptions/pheb/</a> ) <sup>3</sup>		3
PHLT 307	Public Health in the Global Context <sup>3</sup>	3
PHLT 336	Health Disparities and Diversity in Society <sup>3</sup>	3
PHEB elective <sup>6</sup>		3
<b>Semester Credit Hours</b>		<b>18</b>

**Spring**

PHEB 615-627 ( <a href="https://catalog.tamu.edu/graduate/course-descriptions/pheb/">https://catalog.tamu.edu/graduate/course-descriptions/pheb/</a> ) <sup>3</sup>		3
SOPH 680	Public Health Capstone <sup>3,5</sup>	3
PHEB elective <sup>6</sup>		3
<b>Semester Credit Hours</b>		<b>9</b>

**Total Semester Credit Hours 150**<sup>1</sup> Cannot use both ENGL 103 and ENGL 104.<sup>2</sup> Chosen in consultation with BSPH academic advisor.<sup>3</sup> Must make a grade of C or better.<sup>4</sup> A list of approved courses that fulfill the directed elective hours is available below. Courses that constitute the major are those offered by the School of Public Health and those approved for public health studies electives. Additional courses may be available. Students must check with their academic advisor.<sup>5</sup> These 15 hours will be used towards both the BS and MPH degree in Public Health<sup>6</sup> PHEB elective options includes courses from PHEB or other SPH departments may be taken. One elective must be a statistics course. For courses outside SPH, please get approval from the departmental advisor.

## Directed Electives

Public Health (PHLT) directed electives are courses that are specifically approved for the curriculum. A student must select 3 semester credit hours from the following list of approved courses in consultation with their academic advisor. Directed Electives must have a letter grade of C or better.

Code	Title	Semester Credit Hours
ACCT 209	Survey of Accounting Principles	3
BESC 314	Pathogens, the Environment and Society	3
BESC 401	Bioenvironmental Microbiology	3
BICH 303	Elements of Biological Chemistry	3
BICH 410	Comprehensive Biochemistry I	3
BICH 411	Comprehensive Biochemistry II	3
BICH 412	Biochemistry Laboratory I	1
BIOL 206	Introductory Microbiology	4
BIOL 319	Integrated Human Anatomy and Physiology I	4
BIOL 320	Integrated Human Anatomy and Physiology II	4
BIOL 351	Fundamentals of Microbiology	4
CHEM 120	Fundamentals of Chemistry II	4
CHEM 227	Organic Chemistry I	3
CHEM 228	Organic Chemistry II	3
CHEM 237	Organic Chemistry Laboratory	1
CHEM 238	Organic Chemistry Laboratory	1
ENTO 210	Global Public Health Entomology	3
ENTO 423	Medical Entomology	2
ENTO 427	Medical Entomology Laboratory	1
ENTO 431/ FIVS 431	The Science of Forensic Entomology	3
ENTO 432/ FIVS 432	Applied Forensic Entomology	1
FINC 409	Survey of Finance Principles	3
GENE 301	Comprehensive Genetics	3
GENE 302	Principles of Genetics	3
GENE 310	Principles of Heredity	3
GENE 312	Comprehensive Genetics Laboratory	1
GENE 314	Principles of Genetics Laboratory	1
GENE 320/ BIMS 320	Biomedical Genetics	3
HLTH 210	Introduction to the Discipline	3
HLTH 221	Safety	3
HLTH 231	Healthy Lifestyles	3
HLTH 240	Computer Technology in Health and Kinesiology	3
HLTH 331	Community Health	3
HLTH 334	Women's Health	3
HLTH 342/ PHLT 342	Human Sexuality	3
HLTH 335	Human Diseases	3
HLTH 353/ PHLT 353	Drugs and Society	3
HLTH 354/ PHLT 354	Medical Terminology for the Health Professions	3
HLTH 403/ PHLT 403	Consumer Health	3
HLTH 405/ PHLT 405	Rural Health	3
HLTH 410	Worksite Health Promotion	3
HLTH 429	Environmental Health	3
NUTR 202	Fundamentals of Human Nutrition	3
NUTR 222	Nutrition for Health and Health Care	3
NUTR 320/ FSTC 320	Understanding Obesity - A Social and Scientific Challenge	3
PBSI 225	Lifespan Development	3
PBSI 235	Introduction to Behavioral and Cognitive Neuroscience	3
PBSI 306	Psychological Disorders	3
PBSI 307	Developmental Psychology	3
PHIL 111	Contemporary Moral Issues	3
PHIL 251	Introduction to Philosophy	3
PHIL 480	Medical Ethics	3
PHLT 301	Public Health Concepts	1
PHLT 306	Border Health	3
PHLT 308	Comparative Global Health Systems	3
PHLT 331	Occupational Safety and Health I	3
PHLT 332	Occupational Safety and Health II	3
PHLT 333	Accident Investigation	3
PHLT 334	Fire Safety and Workplace Hazards	3
PHLT 335	Hazardous Materials	3
PHLT 370	Broad Street Learning Community II	3
PHLT 413	Public Health Informatics	3
PHLT 414	Applications of Epidemiology in Public Health	3
PHLT 415	Emergency Management in Public Health	3
PHLT 416	Public Health Leadership and Ethics	3
PHLT 426/ MKTG 443	The Business of Healthcare	3
PHLT 432	Human Factors and Ergonomic Health and Safety	3
PHLT 433	Industrial Inspections and Audit Techniques	3
PHLT 434	Project Cost Benefit and Economics	3
PHLT 436	Infectious Disease in the Developing World: Risks, Challenges, and Solutions	3
PHLT 470	Global Public Health Systems and Practice Experiences	1-3
PHLT 485	Directed Studies	1-4
PHLT 489	Special Topics In...	1-4
PHLT 491	Research	0-4
PHYS 201	College Physics	4
PHYS 202	College Physics	4

STAT 301	Introduction to Biometry	3
STAT 302	Statistical Methods	3
STAT 303	Statistical Methods	3
URPN 370	Health Systems Planning	3
URPN 371	Environmental Health Planning and Policy	3
VIBS 407/ NRSC 407	Core Ideas in Neuroscience	2
VTPB 221	Great Diseases of the World	3
VTPB 409	Introduction to Immunology	3
VTPP 425	Pharmacology	3

The program includes a total of 165 hours which up to 15 hours may be applied toward both the Bachelor of Science in Public Health and the Master of Public Health in Epidemiology.

Approval of degree plan does not guarantee access to courses. Students must satisfy prerequisites, and some courses (writing intensive classes included) are available to majors only. It is the responsibility of the student to ascertain whether there are any restrictions or prerequisites for courses in their degree plan.