

Bachelor of Science in Public Health – Environmental Public Health Specialization 2024-2025 Curriculum Guide – Pre-Medicine

| General Education Requirements | | |
|--|---|--------------|
| Requirement | Course Options | Credit Hours |
| GE Launch Seminar | GENED 1201 | 1 |
| Writing and Information Literacy | <i>Student Choice</i> | 3 |
| Mathematical and Quantitative Reasoning | Major prerequisite: MATH 1148 & 1149 or 1150* (or <i>Student Choice</i> – see below) | 5-7 |
| Literary, Visual and Performing Arts | <i>Student Choice</i> | 3 |
| Historical and Cultural Studies | <i>Student Choice</i> | 3 |
| Natural Sciences | Recommended: BIOLOGY 1113.01 or 1113.02** (or <i>Student Choice</i> – see below) | 4-5 |
| Social and Behavioral Sciences | <i>Student Choice</i> | 3 |
| Race, Ethnicity and Gender Diversity | <i>Student Choice</i> | 3 |
| Theme: Citizenship for a Diverse and Just World | <i>Student Choice</i> ^a | 4-6 |
| Theme: Student Choice | <i>Student Choice</i> ^a | 4-6 |
| GE Reflection | GENED 4001 | 1 |
| General Education Credit Hours: | | 34-41 |

*Indicates a prerequisite course for this major that also satisfies this GE category. If a student makes an alternative selection in this GE category, they must also complete this course.

**Indicates a prerequisite course for a major required course (MICROBIOLOGY 4000.01/4000.02) that also satisfies this GE category. If a student makes an alternative selection in this GE category, they must also complete this course.

^a Students must complete either a 4-credit course or two 3-credit courses in each of two General Education Theme areas. One course in each GE Theme area may double count in the GE and major hours. Major required courses that are also theme courses are identified with a ♦ symbol. Courses that can fulfill General Education requirements are listed at: <https://classes.osu.edu>

Major Core Courses

| Course/Requirement | Title | Credit Hours |
|-----------------------------------|---|--------------|
| PUBHLTH 1100 or 1100H | Survey of Public Health | 1 |
| PUBHLTH 2010 or 2010H ♦ | Critical Issues in Global Public Health | 3 |
| PUBHBIO 2210 or 2210H | Biostatistics for Public Health Research | 3 |
| PUBHEHS 3310 ♦ | Current Issues in Global Environmental Health | 3 |
| PUBHEPI 2410 ♦ | Epidemiology in Public Health | 3 |
| PUBHHBP 3510 ♦ | Role of Behavior in Public Health | 3 |
| PUBHHMP 3610 ♦ | U.S. and International Health Care | 3 |
| PUBHLTH 3180 or 3180E | Undergraduate Capstone Preparation | 1 |
| Capstone Experience (choose one): | PUBHLTH 3191/3191E Undergraduate Internship in Public Health PUBHLTH 3999 Undergraduate Capstone Research in Public Health PUBHLTH 4999 Undergraduate Research Thesis PUBHLTH 4999.01H Senior Honors Thesis PUBHLTH 3189.05: Field Experience in Global Public Health: Costa Rica EARTHSC 5797.20 Exploring Environmental and Human Health Issues in Japan (3 cr) Other pre-approved (by CPH) Education Abroad Experience | 2-3 |
| Major Core Requirements: | | 22-23 |

Specialization Courses

| Course/Requirement | Title | Credit Hours |
|--|---|--------------|
| EARTHSC 2203 ♦ | Environmental Geoscience | 3 |
| EARTHSC 3411 | Water Security for the 21 st Century (SP) | 3 |
| PUBHEHS 3320 | Fundamentals of Environmental Health Risk Assessment (SP) | 3 |
| PUBHEHS 4530 | Food Safety & Public Health (SP) (prereq: MICROBIO 4000 or 4100) | 3 |
| PUBHEHS 5315 | Principles of Toxicology (SP) | 3 |
| PUBHEHS 5335 | Ecology of Infectious Diseases (SP) (prereq: one undergraduate Biology course) | 3 |
| PUBHEHS 5340 | Air Contaminants & Public Health (SP) | 3 |
| PUBHEPI 3411 ♦ | Public Health Field Investigation | 3 |
| Choose 1: EARTHSC 5203 EARTHSC 5663 PUBHEHS 4330 | Environment Course: Geo-Environment & Human Health (prereq: EARTHSC 2245 or GE data analysis course) Global Change & Sustainability in the Earth System (4 cr) Environmental Epigenetics (prereq: BIOLOGY 1113 or 1114) | 3-4 |
| Environmental Public Health Electives | Choose 9 credit hours from list of courses on page 2. Cannot overlap with courses used to fulfill other major requirements. | 9 |
| Specialization Requirements: | | 36-37 |

Specialization Supporting Courses

| Course | Title | Credit Hours |
|---|--|--------------|
| CHEM 1210 | General Chemistry I (prereq: C- or above in MATH 1148/1149 or 1150) | 5 |
| CHEM 1220 | General Chemistry II (prereq: CHEM 1210, C- or above in Math 1148 or above) | 5 |
| CHEM 2510 | Organic Chemistry I (prereq: CHEM 1220, C- or above in Math 1148 or above) | 4 |
| CHEM 2540 | Organic Chemistry Lab I (prereq: CHEM 1220, C- or above in Math 1148 or above) | 2 |
| MICROBIOLOGY 4000.01 or 4000.02 | Basic and Practical Microbiology (prereq: GE Natural Science Biology course) | 4 |
| PHYSICS 1200 | Mechanics, Kinematics, Fluids, Waves (prereq: MATH 1148/1149 or 1150) | 5 |
| Specialization Non-Major Requirements: | | 25 |

Environmental Public Health Electives

| Course/Requirement | Title | Credit Hours |
|--------------------|---|--------------|
| EARTHSC 2204 ♦ | Exploring Water Issues | 3 |
| EARTHSC 4450 | Water, Ice, & Energy in the Earth System (prereq: EARTHSC 1100 or 2204 and CHEM 1210 or PHYSICS 1250) | 3 |
| EARTHSC 5203 | Geo-Environment & Human Health (prereq: EARTHSC 2245 or GE data analysis course and soph standing or above) | 3 |
| EARTHSC 5651 | Hydrogeology (prereq: EARTHSCI 1100, 1105, 1121, 1151, 2203 or 2205 and Math 1152 or above) | 4 |
| EARTHSC 5663 | Global Change & Sustainability in the Earth System | 4 |
| ENR 2100 | Introduction to Environmental Science | 3 |
| ENR 3000 | Soil Science | 3 |
| GEOG 2800 | Our Global Environment | 3 |
| GEOG 5210 | Fundamentals of GIS | 3 |
| PUBHLTH 3998 | Undergraduate Public Health Research | 2 |
| PUBHLTH 5015 | Public Health Data Analytics (prereq: PUBHBIO 2210 or 2210H) | 3 |
| PUBHEHS 3330 | Global Pandemics and Public Health | 3 |
| PUBHEHS 4325 ♦ | Climate Change, Sustainability and Human Health | 3 |
| PUBHEHS 4330 | Environmental Epigenetics (prereq: BIOLOGY 1113 or 1114) | 3 |
| PUBHEHS 4340 | Molecular Techniques for Environmental Health Sciences | 3 |
| PUBHEHS 5325 | Principles of Occupational Health Science | 3 |
| PUBHEHS 5395 | Engineering Design Environmental Health (prereq: MATH 1151 or 1161.01 or 1161.02, and CHEM 1210 or 1250) | 3 |
| PUBHEPI 5412 | Global Epidemiology of Infectious Disease | 3 |
| VETPREV 5721 | Introduction to Zoonoses (prereq: MICROBIO 4000) | 2 |

Open Electives/Pre-Medicine Prerequisites

| Course/Requirement | | Credit Hours |
|--|--|----------------|
| CHEM 2520 | Organic Chemistry II | 4 |
| CHEM 2550 | Organic Chemistry II Lab | 2 |
| PHYSICS 1201 | E&M, Optics, Modern Physics | 5 |
| BIOLOGY 1114 | Biological Sciences: Form, Function, Diversity and Ecology | 4 |
| BIOCHEM 4511 | Introduction to Biological Chemistry | 4 |
| Total Credit Hours of Pre-Medicine Prerequisites: | | 19 |
| Total Credit Hours for Degree including Pre-Medicine course work overlap: | | 136-145 |

Policies and General Requirements for Degree

- A minimum of 121 total credit hours. Remedial coursework (English 1109; EDUTL 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1010; Mathematics 1040, 1050, 1073, 1074, 1075) do not count toward the 121 credit hour minimum requirement for the BSPH degree.
- A minimum of 30 semester hours of credit earned through regular course enrollment at this University, and regular course enrollment in the last semester in the College of Public Health.
- A maximum of 8 hours of technical credit may be counted towards your degree requirements.
- A maximum of 4 credit hours of physical activity courses (all 1100-level KNSFHP courses except for 1102, 1103, 1122, and 1137).
- A cumulative point-hour ratio of at least 2.5 on all coursework completed at The Ohio State University as well as at least a 2.5 in the major.
- A minimum grade of C- or higher is required for all major courses.
- If a major-required course or major elective is a GE Theme course, two 3-4 credit hour courses (no more than one per theme area) are permitted to double count in the GE and major hours. GE Theme courses are indicated with a ♦ symbol.
- The program requirements a student will follow are determined by their admit term (first term of undergraduate enrollment at Ohio State).

Sample 4-year Plan[^] In order to incorporate pre-medicine prerequisites into an 8 semester plan, there will need to be 1 term, possibly 2, of an overload petition required. Students may want to consider taking a course in a summer term to avoid the petition.

| Term | Course | Credit Hours |
|---|---|---------------------|
| Autumn 1 (16-17 credit hours) | GE Writing and Information Literacy (ENGLISH 1110.0X) | 3 |
| | MATH 1148 (4cr) or 1150 (5cr) (GE Math Quant Reasoning and Major prereq) | 4-5 |
| | CHEM 1210 | 5 |
| | PUBHLTH 1100 | 1 |
| | PUBHLTH 2010 | 3 |
| Spring 1 (16 credit hours) | CHEM 1220 | 5 |
| | PUBHEHS 3310 | 3 |
| | MATH 1149 (if MATH 1148 was taken) or GE Historical and Cultural Studies | 3 |
| | BIOLOGY 1113.01 or .02 (GE Natural Science and Major course prereq) | 4 |
| | GENED 1201 (Launch Seminar) | 1 |
| Autumn 2 (17-20 [^] credit hours) | PUBHHMP 3610 | 3 |
| | CHEM 2510 | 4 |
| | CHEM 2540 | 2 |
| | PUBHEPI 2410 | 3 |
| | PHYSICS 1200 | 5 |
| | GE Historical and Cultural Studies (if not taken in Spring of Year 1) | 0-3 |
| Spring 2 (17 credit hours) | PHYSICS 1201 | 5 |
| | Environmental Public Health Elective #1 | 3 |
| | PUBHBIO 2210 or 2210 | 3 |
| | CHEM 2520 | 4 |
| | CHEM 2550 | 2 |
| Autumn 3 (19 [^] credit hours) | MICROBIOLOGY 4000.01 or .02 | 4 |
| | GE Race, Ethnic and Gender Diversity | 3 |
| | PUBHHBP 3510 | 3 |
| | EARTHSCI 2203 | 3 |
| | PUBHEPI 3411 | 3 |
| | GE Social and Behavioral Sciences | 3 |
| Spring 3 (16 credit hours) | GE Literary, Visual and Performing Arts | 3 |
| | GE THEME: Citizenship #1 | 3 |
| | PUBHEHS 3320 | 3 |
| | PUBHEHS 4530 | 3 |
| | BIOLOGY 1114 | 4 |
| Autumn 4 (17 credit hours) | PUBHLTH 3180 (Capstone Prep) | 1 |
| | GE THEME: Health & Wellbeing OR Sustainability OR Lived Environment | 3 |
| | BIOCHEM 4511 | 4 |
| | Environment Course (select 1 of 3 options) | 3 |
| | Environmental Public Health Elective #3 | 3 |
| | GE THEME: Citizenship #2 | 3 |
| Spring 4 (18 credit hours) | Capstone Course (3191, 3999 or 4999) | 2 |
| | GENED 4001 (GE Reflection Seminar) | 1 |
| | Environmental Public Health Elective #2 | 3 |
| | PUBHEHS 5340 | 3 |
| | EARTHSCI 3411 | 3 |
| | PUBHEHS 5335 | 3 |
| | PUBHEHS 5315 | 3 |
| | Total Minimum Credit Hours* for Degree: | 136-145 |
| | <i>*Total Credit hours will vary depending on which courses students select</i> | |