



### Admission Requirements for the Public Health Major

New freshmen admitted to USU in good standing qualify for admission to this major.

Transfer students from other institutions need a 2.50 transfer GPA and students transferring from other USU majors need a 2.50 cumulative GPA for admission to this major.

### The Program

The public health profession offers many opportunities to work with people at the community level, as well as in the workplace. Typically, public health professionals enter careers oriented to service, teaching, or research to promote the general health and welfare of people and their working and living environments. Historically, public health has focused on the study and prevention of communicable diseases through nutritional factors, immunization, and environmental sanitation. Although still an important focus of public health, the scope of the profession has broadened to include all aspects of disease prevention, environmental protection, and health promotion.

At Utah State University, the Department of Biology offers a course of study leading to the Bachelor of Science degree in Public Health. There are three emphases available within this program.

The **Industrial Hygiene** emphasis prepares students in the anticipation, recognition, evaluation, and control of occupational health hazards in the workplace. The industrial hygienist is responsible for inspection of the working environment; measurement of worker exposures to chemical, physical, and biological hazards, and other factors which contribute to unsuitable working conditions; and for the implementation of control measures to provide a safe and healthful working environment. The Industrial Hygiene emphasis is accredited by the Applied Science Accreditation Commission of ABET, 111 Market Place, Suite 1050, Baltimore MD 21202-4012, (410) 347-7700. Graduates from ABET accredited programs are granted benefits toward both Certified Industrial Hygienist (CIH) and Certified Safety Professional (CSP) professional certification examinations.

The **Environmental Health** emphasis prepares students for a career in the area of environmental health and protection. The environmental health and protection professional is primarily concerned with the investigation and prevention of health-related problems within a community, such as air and water pollution, solid and hazardous waste disposal, food-borne illnesses in public eating establishments, water and wastewater treatment, and insect and rodent vectors of disease. Environmental health graduates are qualified to take the Registered Environmental Health Specialist/Sanitarian examination.

The **Public Health Education** emphasis prepares students to educate people about a variety of health issues. The public health educator assists people in developing positive health attitudes and behaviors. The public health education profession includes various responsibilities, such as teaching, research, program development, administrative duties, speaking before civic groups, arranging publicity campaigns, and coordinating the activities of various service organizations with those of governmental or community agencies. The public health education specialist is a primary source and disseminator of health education materials and programs. Public Health Education graduates are qualified to take the Certified Health Education Specialist (CHES) examination.

### Career Opportunities

Public health professionals are involved in research, teaching, administration, laboratory services, and field work. Graduates in Public Health typically find work in areas such as sanitation, occupational safety and health, health education, mental health, social work, laboratory work, administration, nursing, and nutrition. Places of employment include various federal, state, and local government agencies, insurance companies, industrial settings, hospitals, nursing and personal care homes, and health management firms.

### Academic Advisement

The advisor for the Public Health Major is Carl Farley, BNR 323, (435) 797-2256, [carl.farley@usu.edu](mailto:carl.farley@usu.edu).

### Biology Advising Center

All students should contact their academic advisor for assistance with course selection, program planning, and meeting graduation requirements. The Department of Biology Director of Undergraduate Studies, Dennis Welker ([dennis.welker@usu.edu](mailto:dennis.welker@usu.edu)), and Biology Advisor, Dani Lawrence ([dani.lawrence@usu.edu](mailto:dani.lawrence@usu.edu)) is available to provide all undergraduate majors with additional information regarding specific programs and career opportunities. The **Biology Advising Center** is located in BNR 101. Additional information is available at <http://www.biology.usu.edu> or by calling 435-797-2652. For Public Health majors pursuing Prehealth interests, the **Prehealth Advising Office** provides resources on preparing for health professions, including preparatory coursework and extracurricular activities. Yvonne Kobe ([yvonne.kobe@usu.edu](mailto:yvonne.kobe@usu.edu)) is located in the Exploratory Advising Office TSC 302, phone 435-797-3373.

### Other Undergraduate Degrees Offered Through the Department of Biology

**Biology:** Bachelor of Science (BS), Bachelor of Arts (BA)

- Emphases: Biology
  - Cellular/Molecular
  - Ecology/Biodiversity
  - Environmental
  - Human Biology

**Composite Teaching- Biological Sciences:** BS, BA

### Minors offered by the Department of Biology

**Biology Minor:** This minor requires completion of the following: BIOL 1610 and 1620 (with a C- or better); and 12 credits of upper division (3000 or above) BIOL prefix elective credits. BIOL 2220 may be used towards the 12 elective credits. A minimum GPA of 2.25 is required in this coursework.

**BioMath Minor:** This minor requires math and quantitative biology courses beyond those required for basic biology degrees. A minimum GPA of 2.25 is required in this coursework with a C- or better in both BIOL 1610 and 1620. Biology majors may take this minor through the Mathematics and Statistics Department.

**Public Health Minor:** This minor requires the completion of the following: BIOL 1610 and 1620 (with a C- or better); and 12 upper division public health elective credits. A minimum GPA of 2.25 is required in this coursework.

### Graduation Requirements

Candidates for the **Bachelor of Science Degree** with a Public Health Major (PUBH) must meet all of the minimum requirements for the University, College of Science, and Department of Biology. All candidates for BS a degree should refer to the [General Catalog](#) for more detailed information on degree requirements.

### Minimum University Requirements

Total Credits.....	120
Grade point average.....	2.00 GPA
Credits of C- or better.....	100
Credits of upper-division courses (3000 or above).....	40
USU Credits (20 must be upper division, including 10 required by the major)...	30
Completion of approved major program of study.....	
Credits in American Institutions.....	3
University Studies Requirements.....	

## Minimum College of Science Requirements

All college requirements are met by completing the Biology Major Degree requirements; no additional coursework is required.

## Changes in Graduation/Catalog Requirements

Students who can complete a baccalaureate degree within seven years of enrollment at USU can qualify for graduation by meeting (1) the General Education/University Studies requirements in effect when they initially enrolled and (2) the major requirements in effect when they officially declared their major, even though there may have been changes in the University Studies and major requirements since that time.

Students who have not completed the baccalaureate requirements within seven years of their initial enrollment at USU must have their University Studies and major requirements evaluated and approved by their department head and dean.

## Undergraduate Course Expiration Policy

Coursework (including transfer credit) that is more than 10 years old that is required by the major may be disallowed by the student's department. Students will have an opportunity to revalidate coursework that is disallowed.

## University Studies Requirements for the Public Health Major

Approved University Studies courses and requirements are listed at [www.catalog.usu.edu](http://www.catalog.usu.edu)

## General Education Requirements

### Competency Requirements

#### Communications Literacy (CL1 and CL2)

ENGL 1010 (CL1) or satisfactory AP, CLEP, IBO, ACT, or SAT score

ENGL 2010 (CL2) or satisfactory IBO score

#### Quantitative Literacy (QL)

MATH 1210 is required and fulfills this requirement

### Breadth Requirements (CLEP, IBO, or AP credit may be used)

Select at least one approved course from each of the following four categories: **American Institutions (BAI)**, **Creative Arts (BCA)**, **Humanities (BHU)**, and **Social Sciences (BSS)**.

University Studies breadth courses with a **USU prefix** may be used. The most relevant courses with the USU prefix are: USU 1300 (**BAI**), USU 1320 (**BHU**), USU 1330 (**BCA**), and USU 1340 (**BSS**).

The **Life Science (BLS)** and **Physical Science (BPS)** breadth areas are fulfilled by coursework required by the Public Health Major (BIOL 1610/1620 and CHEM 1210/1220 or CHEM 1110/1120 depending on the emphasis).

### Integrated Studies Requirement

The required chemistry and physics coursework will fulfill the Integrated Studies Requirement for students in the Public Health major.

## Depth Education Requirements

### Communications Intensive (CI) (2 courses)

PUBH 5500, along with another course having CI designation (such as ASTE 3050, NDFS 5110, NDFS 5210, or ENGL 3080), will meet this requirement.

### Quantitative Intensive (QI) (1 course)

STAT 3000 will meet this requirement.

**Depth Course Requirements (4 credit minimum, including 2 credits in each of the following two depth areas):**

Humanities and Creative Arts (**DHA**)

Social Sciences (**DSS**)

## Public Health Major Requirements

To graduate, a candidate for any bachelor's degree offered by the Department of Biology must maintain a grade point average of 2.25 in all Department of Biology (BIOL or PUBH prefix) courses required for the major and a grade of C- or better in BIOL 1610, 1615, 1620, and 1625. The *Pass-Fail* option is not acceptable for any course required for the degree, but D grades are permitted within the restrictions of the 2.25 GPA. The Industrial Hygiene Emphasis includes sufficient chemistry coursework for students to also complete a minor in chemistry.

Laboratory fees required for some Department of Biology courses are used to purchase expendable laboratory items and other materials required for successful completion of laboratory assignments.

Students who receive a 3 on the AP Biology examinations may fulfill the Breadth Life Science (BLS) requirements plus 3 elective credits. Students who receive a 4 or 5 on the AP Biology examination may fulfill both BIOL 1610 and BIOL 1620 requirement. Either way, you still have to take labs BIOL 1615 and BIOL 1625 in sequence.

## Industrial Hygiene Emphasis

Required Biology Courses (16-17 credits)	Credits
BIOL 1610 Biology I (F) .....	3
BIOL 1615 Biology I Laboratory (F) .....	1
BIOL 1620 (BLS) Biology II (Sp) .....	3
BIOL 1625 Biology II Laboratory (Sp).....	1
BIOL 2420 Human Physiology (F, Sp, Su).....	4
OR	
BIOL 4600 Advanced Human Physiology (Sp).....	5
BIOL 3300 General Microbiology (F,Sp).....	4

### Required Physical Science Courses (26 credits)

CHEM 1210 Principles of Chemistry I (F,Sp,Su).....	4
CHEM 1215 Chemical Principles Laboratory I (F,Sp,Su).....	1
CHEM 1220 (BPS) Principles of Chemistry II (F,Sp,Su).....	4
CHEM 1225 Chemical Principles Laboratory II (F,Sp).....	1
CHEM 2300 <sup>1</sup> Principles of Organic Chemistry (F).....	3
CHEM 2315 <sup>1</sup> Organic Chemistry Laboratory I (F).....	1
CHEM 3700 Introductory Biochemistry (Sp).....	3
CHEM 3710 Introductory Biochemistry Laboratory (Sp).....	1

PHYS 2110 General Physics-Life Science I (F) (4cr) and	
PHYS 2120 (BPS) General Physics-Life Sciences II (Sp) (4cr) .....	8
OR	
PHYS 2210/2215 (QI) General Physics-Science and Engineering I (4/1cr) and	
PHYS 2220/2225 (BPS/QI) Gen. Physics- Sci and Eng II (F,Sp,Su) (4/1cr)..	10

### Additional Required Chemistry (3-4 credits)

CHEM 3000 (QI) Quantitative Analysis (F) (3 cr) and	
CHEM 3005 Quantitative Analysis Laboratory (F) (1 cr).....	4
OR	
CHEM 3650 Environmental Chemistry (Sp).....	3
OR	
PUBH 5730 <sup>2,3</sup> Environmental Chemistry of Organic Contaminants (F).....	3

### Mathematics and Statistics Requirement (7 credits)

MATH 1210 (QL) <sup>4</sup> Calculus I (F,Sp,Su).....	4
STAT 3000 (QI) Statistics for Scientists (F,Sp,Su).....	3

### Required Program Courses (30 cr)

Required Program Courses (30 cr)	Credits
PUBH 3310 Occupational Health and Safety (F) .....	3
PUBH 3610 Environmental Management (F).....	3
PUBH 4040 Fundamentals of Epidemiology (Sp).....	3
PUBH 4310 Industrial Hygiene Recognition of Hazards (F).....	4
PUBH 4320 Industrial Hygiene Chemical Hazard Evaluation (Sp) .....	3
PUBH 4330 Industrial Hygiene Physical Hazards (Sp).....	3
PUBH 4380 Industrial Hygiene Internship (F,Sp,Su).....	3
PUBH 5330 (QI) Industrial Hygiene Chemical Hazard Control (F).....	3
PUBH 5400 Environmental Toxicology (Sp).....	3
PUBH 5500 (CI) Public Health Management (F,Sp) .....	2

### Required Communication Course (3 credits)

ASTE 3050 (CI) Technical and Prof. Communication Principles (F,Sp, Su) .....	3
CMST 1020 (BHU) (formerly SPCH 1020) Public Speaking (F,Sp).....	3
CMST 2120 (formerly SPCH 2120) Small Group Communication (F,Sp).....	3
CMST 3050 (DSS) (formerly SPCH 3050) Technical and Professional Communication (F) .....	3

### Elective Options (select 5 credits)

BIOL 3060 (QI) Principles of Genetics (F,Sp,Su) .....	4
CEE 5610 Environmental Quality Analysis (F).....	3
MGT 3110 (DSS) Managing Organizations and People (F,Sp,Su).....	3
PUBH 4300 Industrial Hygiene Seminar (F).....	1-2
PUBH 4410 Industrial Safety (Sp).....	3
PUBH 5340 Industrial Hygiene and Safety Programs (Sp).....	2
PUBH 5670 Hazardous Chemicals Handling and Safety (Sp) .....	2
PUBH 5730 <sup>3</sup> Environmental Chemistry of Organic Contaminants (F).....	3
PUBH 5790 Accident and Emergency Management (Sp).....	3

<sup>1</sup>Students considering professional school and those who want a stronger chemistry background should *replace* CHEM 2300 and 2315 with Organic Chemistry series (CHEM 2310, 2315, 2320, and 2325, 10 total credits).

<sup>2</sup>Industrial Hygiene students taking PUBH 5730 may not be eligible for a minor in Chemistry.

<sup>3</sup>PUBH 5730 may satisfy *either* the additional chemistry requirement *or* the elective option (but *not* both).

<sup>4</sup>Students should be certain that they have the proper background to enroll in MATH 1210.

## Environmental Health Emphasis

Required Biology Courses (19-20 credits)	Credits
BIOL 1610 Biology I (F) .....	3
BIOL 1615 Biology I Laboratory (F) .....	1
BIOL 1620 (BLS) Biology II (Sp) .....	3
BIOL 1625 Biology II Laboratory (Sp).....	1
BIOL 2220 General Ecology (F,Sp) .....	3
BIOL 2420 Human Physiology (F, Sp, Su).....	4
OR	
BIOL 4600 Advanced Human Physiology (Sp).....	5
BIOL 3300 General Microbiology (F,Sp).....	4

### Required Physical Science Courses (22 credits)

CHEM 1210 Principles of Chemistry I (F,Sp,Su).....	4
CHEM 1215 Chemical Principles Laboratory I (F,Sp,Su).....	1
CHEM 1220 (BPS) Principles of Chemistry II (F,Sp,Su) .....	4
CHEM 1225 Chemical Principles Laboratory II (F,Sp).....	1
CHEM 2300 <sup>5</sup> Principles of Organic Chemistry (F).....	3
CHEM 2315 <sup>5</sup> Organic Chemistry Laboratory I (F).....	1

PHYS 2110 General Physics-Life Science I (F) (4cr) and	
PHYS 2120 (BPS) General Physics-Life Sciences II (Sp)(4cr).....	8
OR	
PHYS 2210/2215 (QI) General Physics-Science and Engineering I (4/1cr) and	
PHYS 2220/2225 (BPS/QI) Gen. Physics- Sci and Eng II (F,Sp,Su) (4/1cr)..	10

### Mathematics and Statistics Requirement (7 credits)

MATH 1210 (QL) <sup>6</sup> Calculus I (F,Sp,Su).....	4
STAT 3000 (QI) Statistics for Scientists (F,Sp,Su).....	3

### Required Program Courses (29 credits)

Required Program Courses (29 credits)	Credits
PUBH 3310 Occupational Health and Safety (F) .....	3
PUBH 3610 Environmental Management (F).....	3
PUBH 4000 Public Health Internship (F,Sp,Su).....	3
PUBH 4030 Communicable Disease Control (F).....	3
PUBH 4040 Fundamentals of Epidemiology (Sp).....	3
PUBH 4310 Industrial Hygiene Recognition of Hazards (F).....	4
PUBH 5000 Public Health Seminar (Sp) .....	1
PUBH 5500 (CI) Public Health Management (F,Sp) .....	2
PUBH 5730 Environmental Chemistry of Organic Contaminants (F).....	3
NDFS 5110 (CI) Food Microbiology (Sp).....	4

### Required Communication Course (3 credits)

ASTE 3050 (CI) Technical and Prof. Communication Principles (F,Sp, Su) .....	3
CMST 1020 (BHU) (formerly SPCH 1020) Public Speaking (F,Sp).....	3
CMST 2120 (formerly SPCH 2120) Small Group Communication (F,Sp).....	3
CMST 3050 (DSS) (formerly SPCH 3050) Technical and Professional Communication (F) .....	3

### Required Electives (select 10 credits)

BIOL 3220 (QI) Field Ecology (F) .....	2
BIOL 4420 Plant Systematics and Diversity (F) .....	3
BIOL 5550 Freshwater Invertebrates (Sp) .....	3
CHEM 3700 Introductory Biochemistry (Sp).....	3
CHEM 3710 Introductory Biochemistry Laboratory (Sp).....	1
NDFS 1250 Sanitation and Safety (Sp).....	3
PSC 3000 Fundamentals of Soil Science (F,Sp).....	4
PUBH 5400 Environmental Toxicology (Sp).....	3

<sup>5</sup>Students considering professional school and those who want a stronger chemistry background should *replace* CHEM 2300 and 2315 with the Organic Chemistry series (CHEM 2310, 2315, 2320, and 2325, 10 total credits).

<sup>6</sup>Students should be certain that they have the proper background to enroll in MATH 1210.

## Public Health Education Emphasis

Required Biology Courses (16-17 credits)	Credits
BIOL 1610 Biology I (F) .....	3
BIOL 1615 Biology I Laboratory (F) .....	1
BIOL 1620 (BLS) Biology II (Sp) .....	3
BIOL 1625 Biology II Laboratory (Sp).....	1
BIOL 2420 Human Physiology (F, Sp, Su).....	4
OR	
BIOL 4600 Advanced Huma Physiology (Sp).....	5
BIOL 3300 General Microbiology (F,Sp).....	4

### Required Physical Science Courses (13 credits)

CHEM 1110 (BPS) <sup>7</sup> General Chemistry I (F,Sp).....	4
CHEM 1125 <sup>8</sup> General Chemistry Laboratory (Sp).....	1
CHEM 1120 (BPS) <sup>7</sup> General Chemistry II (Sp) .....	4
PHYS 1200 (BPS) Intro. to Physics by Hands-on Exploration (F,Sp,Su).....	4
OR	
PHYS 1800 (BPS) Physics of Technology (Sp)(4 cr).....	4

### Mathematics and Statistics Requirement (7 credits)

MATH 1210 (QL) <sup>8</sup> Calculus I (F,Sp,Su).....	4
STAT 3000 (QI) Statistics for Scientists (F,Sp,Su).....	3

### Required Program Courses (15 credits)

Required Program Courses (15 credits)	Credits
PUBH 3120 Family and Community Health (Sp).....	3
PUBH 4000 Public Health Internship (F,Sp,Su).....	3
PUBH 4030 Communicable Disease Control (F).....	3
PUBH 4040 Fundamentals of Epidemiology (Sp).....	3
PUBH 5000 Public Health Seminar (Sp) .....	1
PUBH 5500 (CI) Public Health Management (F,Sp) .....	2

### Required Supporting Courses (30 credits)

HEP 2000 First Aid and Emergency Care (F,Sp,Su).....	2
HEP 2500 Health and Wellness (F,Sp,Su) .....	2
HEP 3000 Drugs and Human Behavior (F,Sp,Su).....	3
HEP 3900 Social Marketing in Health Education (Sp) .....	3
HEP 4200 (QI) Planning and Evaluation for Health Education (F) .....	3
HEP 5300 Grant Proposal Writing (Sp) .....	3
NDFS 1020 (BLS) Science and Application of Human Nutrition (F,Sp,Su).....	3
NDFS 5210 (CI) Advanced Public Health Nutrition (Sp).....	2
PSY 1010 (BSS) General Psychology (F,Sp,Su).....	3
SOC 3330 Medical Sociology (F).....	3
CMST 1020 (BHU) (formerly SPCH 1020) Public Speaking (F,Sp).....	3

<sup>7</sup>Students considering professional school and those who want a stronger chemistry background are encouraged to take CHEM 1210, 1215, 1220, 1225, 2310, 2315, 2320, 2325, 3700, and 3710 as a *substitute* for CHEM 1110, 1115, and 1120.

<sup>8</sup>Students should be certain that they have the proper background to enroll in MATH 1210.