



# **Faculty of Health Sciences**

# Faculty of Health Sciences (FHS)

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## Historical Background

The Faculty of Health Sciences (FHS) was first established in 1954 as an independent School of Public Health, the first of its kind in the region. The name of the school was changed to the Faculty of Health Sciences in 1978 to accommodate programs in allied health.

FHS serves to educate and train professionals and competent leaders to help meet the health needs of Lebanon and the region. Currently, FHS hosts four departments: Epidemiology and Population Health (EPH), Environmental Health (EH), Health Behavior and Education (HBE), Health Management and Policy (HMP), and a Medical Laboratory Technology Program in collaboration with the Faculty of Medicine. FHS offers a BS degree in Health Sciences (major: Environmental Health or Medical Laboratory Technology); a master's degree in Public Health (MPH) (concentrating in EB–Epidemiology and Biostatistics, HBE, or HMP); an MS in Epidemiology; an MS in Population Health; and, an MS in Environmental Sciences (concentrating in EH). FHS also provides teaching of public health to medical students and residents at the Faculty of Medicine.

## Mission

The Faculty of Health Sciences at the American University of Beirut prepares professionals in the scientific disciplines of public health. The faculty strives to educate the students in a worldly perspective that is grounded in the social context of Lebanon and the region, and sensitive to the evolving needs of communities, both local and international. The aim is to create knowledge through research, to share knowledge with citizens, government, community organizations, business leaders, and other scientists and practitioners, and to be a voice of innovation for safeguarding the health of the public.

## Vision

The vision of FHS is to contribute to the promotion of the health and well being of populations through the provision of quality higher education in public health and related disciplines. This is to be accomplished through state-of-the-art research that addresses public health problems particularly relevant to Lebanon, the region, and the developing world, and through transfer of that knowledge to policy makers, program managers, and other practitioners in relevant organizations and fields.

## Undergraduate Programs

### **Bachelor of Science in Health Sciences (Environmental Health, Medical Laboratory Technology)**

To be eligible for admission to the programs leading to the degree of Bachelor of Science in Health Sciences, candidates must have satisfactorily completed the freshman program in the Faculty of Arts and Sciences, or an equivalent program, with a minimum cumulative average of 70 and a minimum science average of 70.

Lebanese students must present the Lebanese Baccalaureate, or its equivalent, and should be considered eligible by the AUB Office of Admissions for admission to the first year in health sciences. These candidates are evaluated based on SAT I scores and school performance.

Candidates holding the Lebanese Baccalaureate Part II (literature and humanities, and sociology and economy) or its equivalent are required to take remedial courses in science subjects: CHEM 200 and MATH 203 (only for literature and humanities).

Freshman students applying to the first year in health sciences must complete the following science requirements: CHEM 101 and 102, MATH 101 and 102 (see pp. 120, 121, 124). Courses taken before the student is admitted to any of the BS programs in Health Sciences may be credited at the discretion of the appropriate department.

## Admission

For complete and detailed information regarding admission to AUB, including recognized certificates, see the Admissions section on pp. 35–46 and Certificate and Class Chart on pp. 47–50 of this catalogue.

## Graduation Requirements

All recommendations for graduation are made by vote of the faculty, upon the recommendation of the academic and curriculum committee.

## Bachelor of Science in Health Sciences

- **Major in Environmental Health:** To be eligible for graduation with the degree of Bachelor of Science in Health Sciences, with a major in environmental health, a student must have satisfactorily completed the prescribed course of study and passed a minimum of 96 credit hours (in addition to field training), after freshman science class or the equivalent, while attaining a total cumulative average of 70.
- **Major in Medical Laboratory Technology:** To be eligible for graduation with the degree of Bachelor of Science in Health Sciences, with a major in medical laboratory technology, a student must have satisfactorily completed the prescribed program of study and passed a minimum of 103 credit hours after the freshman science class, or the equivalent, while attaining a total cumulative average of 70.

All undergraduate transfer students from AUB, or from other recognized institutions of higher learning, need to complete the required course of study for the two undergraduate programs. A minimum residency period of three semesters must be completed within the Faculty of Health Sciences. For purposes of the requirement, two summer sessions shall be equivalent to one semester.

## Minors and Electives

The Faculty of Health Sciences offers two minors, which require the completion of a number of courses as specified in the list below. Moreover, electives can be chosen from the following list of courses to satisfy the distributional requirements of social sciences or sciences.

- The minor in Environmental Health allows students to acquire knowledge about the components of the environmental system and the interactive processes that affect human health, environmental protection, and development.

The minor in Environmental Health requires 15 credits, including the following:

PBHL 200<sup>1</sup>, ENHL 220<sup>2</sup>, plus a minimum of 10 credits selected from the following ENHL courses: ENHL 221<sup>2</sup>, ENHL 230, ENHL 231, ENHL 234<sup>2</sup>, ENHL 241, ENHL 243. The following courses can be selected following the approval of the department: ENHL 232, ENHL 233, ENHL 237 or ENHL 242

- The minor in Public Health introduces students to the public health field through exposure to the disciplines of public health and current public health issues. Students are given a general overview of the field in PBHL 200 and subsequently get more in-depth knowledge by choosing one course from each of the public health disciplines. A minor in public health allows students to become better consumers and producers of health, and to become more conscious of their own health and their community's health. In addition, a minor in public health expands students' career options by exposing them to an increasingly important and expanding profession.

The minor in Public Health requires 15 credits, including the following:

- PBHL 200<sup>1</sup>

<sup>1</sup> Satisfies the distribution requirements for social sciences.

<sup>2</sup> Satisfies the distribution requirements for sciences.

- one of the following courses from the Department of Environmental Health: ENHL 220<sup>2</sup>, ENHL 221<sup>2</sup>, ENHL 230, ENHL 231, ENHL 234<sup>2</sup>, ENHL 241
- one of the following courses from the Department of Epidemiology and Population Health: EPHD 203<sup>2</sup>, EPHD 213<sup>1</sup>, EPHD 227<sup>2</sup>
- one of the following courses from the Department of Health Behavior and Education: HBED 201<sup>1</sup>, HBED 203<sup>1</sup>, HBED 237
- one of the following courses from the Department of Health Management and Policy: HMPD 204<sup>1</sup>, HMPD 212<sup>1</sup>, HMPD 251

The remaining credits can be taken from courses listed above in any of the departments, or from other courses in the faculty, with permission of the instructor.

To graduate with a minor, a student must attain an average of 70 or more in courses taken to satisfy the requirements of that minor.

## List of Humanities/Social Sciences Electives

FHS students are allowed to select humanities/social sciences elective courses from the following list:

### Humanities

- ARAB: 211 and above
- AROL: 201 through 231; 235; 236
- CVSP: 201 through 208; 230; 250; 251; CVSP/German 201-211; CVSP/French 201-211.
- FAAH: One course can be selected from FAAH 201 through 217 or 234 or 240 through 284; 221;222;223;224; 225A; 225B, 225C; 226A; 226B,226C; 227A; 227B; 227C; 228A; 228B; 228C; 229A; 229B; 229C; 235; and 238
- ENGL: 201; 205; 207; 210 through 215; 219; 221 through 226; 229; 236; 239; 240 through 243
- HIST: All 200 level courses up to 274
- PHIL: 201 through 249
- ARCH: 020 through 029; 121; 122; 223; 224; 325

### Social Sciences

- ECON: All 200 level courses up to 243
- EDUC: 211-216; 218; 221; 222; 223; 225; 226
- PSPA: All 200 level courses up to 278 except PSPA 203
- SOAN: All 200 level courses up to 232 except SOAN 210; 211
- PSYC: All 200 level courses up to 251 except PSYC 213; 223 or 243.

<sup>1</sup> Satisfies the distribution requirements for social sciences.

<sup>2</sup> Satisfies the distribution requirements for sciences.

## Academic Rules and Regulations

Please refer to the section on General University Academic Information (pp. 51–65) for information on attendance, classes and laboratories, examinations and quizzes, course loads, premedical requirements, incompletes, probation (placement on academic probation, removal of probation), dismissal and readmission, repeating courses, residence requirements, special students not working for a degree, tutorials, and withdrawal from courses.

### Full-Time Students and Credit Load

A full-time student must carry a minimum load of 12 credits per semester. If a student wishes, or is forced to reduce, his/her load to fewer than 12 credits, s/he must first apply to the academic and curriculum committee for approval. This should be done no later than 10 weeks after the start of the semester.

Students on probation for the first time are allowed a maximum load of 17 credits. Students who continue on probation beyond one semester can register for a maximum of 13 credits per semester.

### Transfers

To be eligible for admission to advanced standing (second and third year), a candidate must have completed the equivalent requirements for the first (or second) year of undergraduate study in the Faculty of Health Sciences and meet the following criteria:

- a minimum cumulative average of 70
- a minimum average of 70 in science courses

A student who has completed a minimum of two semesters of study as a sophomore student, or its equivalent, is eligible for admission to the first year in the Faculty of Health Sciences if the following criteria are met:

- s/he obtains a minimum cumulative average of 70
- s/he obtains a minimum average of 70 in science courses
- s/he completes a minimum of 6 credits in basic science courses

### Promotion

For class promotion from year I to year II, a student must complete a minimum of 30 credits (for EH major) or 31 credits (for MLT major), excluding credits for ENGL 102. For class promotion from year II to year III, a student must complete a minimum of 63 credits (for EH major) or 65 credits (for MLT major).

New students accepted to the undergraduate programs (EH, MLT), who refrain from following the assigned course, automatically have their academic status changed from regular to majorless. Majorless students are given two academic semesters to transfer to the desired major. If, by the end of the second semester, the student does not secure acceptance to the desired major, s/he is not allowed to register beyond that.

# Curricula for Bachelor of Science in Health Sciences

## Major: Environmental Health

### First Year\*

<b>First Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
BIOL	200	Diversity of Life	2	2	4
CHEM	208	Brief Survey of Organic Chemistry	3	0	3
CHEM	209	Introductory Organic Laboratory	1	4	2
ENGL	203	English Communication Skills III	3	0	3
ENHL	220	Introduction to Environmental Sciences	3	0	3
					<b>Total 15</b>

<b>Second Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
ENHL	221	Management of Domestic and Hazardous Wastes	3	0	3
ARAB	201A/B/211 or above		3	0	3
ENGL	204	English Communication Skills IV	3	0	3
HMPD	206	Computer Literacy	2	2	0
	Humanities Elective		–	–	3
	Humanities Elective		–	–	3
					<b>Total 15</b>

### Second Year

<b>First Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
ENHL	231	Water and Wastewater Quality Control	3	0	3
ENHL	232	Instrumentation, Analytical Techniques, and Sampling	2	3	3
ENHL	237	Environmental Microbiology	3	3	4
EPHD	203	Epidemiology and Biostatistics	2	2	3
HMPD	251	Introduction to Health Care Economics	3	0	3
					<b>Total 16</b>

\* CHEM 200 is a remedial course required of Literature and Humanities and Sociology and Economics Baccalaureate holders. MATH 203 is a remedial course required of Literature and Humanities Baccalaureate holders. Remedial courses should be taken during the first year.

<b>Second Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
ENHL	233	Quality Determination of Water and Wastewater	1	4	3
ENHL	234	Occupational Health and Toxicology	2	2	4
ENHL	230	Food Quality and Control	4	0	4
EPHD	213	Survey Methods	2	2	3
Free Elective			–	–	3
					<b>Total 17</b>

<b>Summer Session</b>					
ENHL	236	Summer Field Training	–	–	–

### Third Year

<b>First Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
ENHL	241	Indoor and Outdoor Air Pollution	3	0	3
ENHL	242	Environmental Management Tools and Applications	2	4	3
HMPD	204	Introduction to Health Services Administration	3	0	3
HBED	237	Theories and Methods of Health Education I	2	2	3
Free Elective			–	–	3
Free Elective			–	–	3
					<b>Total 18</b>

<b>Second Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
ENHL	243	Seminar on Global Environmental Issues	1	6	3
HBED	203	Health Communication	2	2	3
PHIL	209	Environmental Ethics	3	0	3
Free Elective			–	–	3
Humanities Elective			–	–	3
					<b>Total 15</b>

## Major: Medical Laboratory Technology

### First Year

<b>First Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
BIOL	200	Diversity of Life	3	3	4
CHEM	208	Brief Survey of Organic Chemistry I	3	0	3
CHEM	209	Introductory Organic Laboratory I	1	4	2
ENGL	203	English Communication Skills III	3	0	3
Humanities Elective			3	0	3
					<b>Total 15</b>

<b>Second Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
ARAB	201A/B/211 or above		3	0	3
BIOC	255	Biochemistry for MLTP (or its equivalent)	3	0	3
ENGL	204	English Communication Skills IV	3	0	3
HMPD	206	Computer Literacy	2	2	0
PHYL	246	Physiology for Nursing Degree Students and Undergraduates	4	0	4
Humanities Elective			3	0	3
					<b>Total 16</b>

### Second Year

<b>First Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
LABM	201	Clinical Chemistry I	2	0	2
MLTP	201	Clinical Hematology I	3	0	3
MLTP	203	General Microbiology	2	2	3
MLTP	207	Immunology and Blood Banking	2	0	2
MLTP	208	General and Diagnostic Virology	2	0	2
Social Sciences Elective			3	0	3
Humanities Elective			3	0	3
					<b>Total 18</b>

<b>Second Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
LABM	202	Clinical Chemistry II	2	0	2
LABM	210	Cytology and Histological Techniques	2	0	2
MBIM	223	Medical Parasitology	2	4	4
MLTP	202	Clinical Hematology II	3	0	3
MLTP	204	Systematic Bacteriology	2	4	4
MLTP	259	Diagnostic Serology	1	0	1
<b>Total 16</b>					

<b>Summer Session</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
Practical Training in Laboratory Medicine			–	–	4
<b>Total 4</b>					

### Third Year

<b>First Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
EPHD	203	Epidemiology and Biostatistics I	2	2	3
HMPD	204	Introduction to Health Services Administration	3	0	3
LABM	233	Genetics and Molecular Biology	2	0	2
LABM	235	Medical Mycology	1	0	1
Practical Training in Laboratory Medicine			–	–	8
<b>Total 17</b>					

<b>Second Semester</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
Humanities Elective			3	0	3
HBED	203	Health Communication	3	0	3
LABM	234	Selected Topics in Laboratory Medicine	2	0	2
MLTP	211	Seminar	1	0	1
Practical Training in Laboratory Medicine			–	–	8
<b>Total 17</b>					

## Practical Training in Laboratory Medicine

A total period of ten months (July to June excluding a one month vacation in September) to cover practical experience and application of theoretical knowledge in the following areas of laboratory medicine, for the periods and credits indicated below:

			<b>Duration</b>	<b>Credits</b>
LABM	220	Clinical Chemistry and Endocrinology	8 weeks	4
LABM	230	Clinical Hematology and Special Procedures	8 weeks	4
LABM	240	Clinical Microbiology	8 weeks	4
LABM	250	Clinical Parasitology and Urinalysis	4 weeks	2
LABM	260	Serology	4 weeks	2
LABM	270	Blood Banking	4 weeks	2
LABM	280	Phlebotomy, Cytogenetics, and Histological Techniques	4 weeks	2
			<b>Total</b>	<b>20</b>

# Graduate Programs

## Admission

### Master of Public Health

A candidate is eligible for consideration for admission to the MPH program if s/he holds a bachelor's degree from AUB, or an equivalent degree from another recognized institution, with a cumulative average of at least 80, or its equivalent in the major field of study. On a case-by-case basis, applicants to the program may be admitted if the average in the major field of study is between 75 and 80, provided their cumulative average is at least 80. A candidate with a major and cumulative average of at least 75, but less than 80, may be considered for admission on probation if s/he holds a bachelor's degree in a health-related field. Mid-year admissions are accepted on a case-by-case basis if space allows. Students admitted mid-year may only register as part-timers.

Students entering the MPH program are evaluated on their previous experience in a health-related field and may be exempt from a 4-credit hour practicum. Applicants for exemption are assessed on a case-by-case basis (refer to policy on exemption).

A candidate who wishes to enroll as a part-time student may do so provided s/he completes the requirements within a period of four years.

### Master of Science in Epidemiology

For full details on admission requirements to the Master of Science in Epidemiology, see the Graduate Studies section at the end of this catalogue. Mid-year admissions are only accepted for part-time students.

### Master of Science in Population Health

For full details on admission requirements to the Master of Science in Population Health, see the Graduate Studies section at the end of this catalogue. Mid-year admissions are only accepted for part-time students.

### Master of Science in Environmental Sciences (Major: Environmental Health)

For full details on this interfaculty program, see the Graduate Studies section at the end of this catalogue and the section on Interfaculty Graduate Environmental Sciences Program (pp. 605–12).

## Graduation Requirements

All recommendations for graduation are made by vote of the faculty on the recommendation of the academic and curriculum committee.

### Master of Public Health

To be eligible for graduation in the MPH program, a student must accomplish the following:

- pass all required courses with a minimum grade of 70
- earn a cumulative average of at least 78
- pass a minimum of 40 credit hours or 36 credit hours if exempted from the practicum

### Master of Science in Epidemiology

Credit requirements for the MS in Epidemiology are tabulated below:

<b>Course Type</b>	<b>Credits</b>
Required	19
Electives	5
Thesis	6
<b>Total number of credits required for graduation</b>	<b>30</b>

For additional information regarding graduation requirements, refer to the Graduate Studies section in this catalogue.

### Master of Science in Population Health

Credit requirements for the MS in Population Health are tabulated below:

<b>Course Type</b>	<b>Credits</b>
Required	19
Electives	5
Thesis	6
<b>Total number of credits required for graduation</b>	<b>30</b>

For additional information regarding graduation requirements, refer to the Graduate Studies section in this catalogue.

## Academic Rules and Regulations

### Master of Science in Epidemiology or Population Health

#### Credit Load

A full-time student must carry a minimum load of 9 credits per semester. Students can register for up to 12 credits per semester. Students who wish to register for more than 12 credits must petition the Academic and Curriculum committee for approval.

For full information on academic rules and regulations and general requirements for the Master of Science in Epidemiology and Master of Science in Population Health, refer to the Graduate Studies section in this catalogue.

## **Master of Public Health Program**

### **Credit Load**

A full-time student must carry a minimum load of 12 credits per semester. Students can register for up to 18 credits per semester. Students who wish to register for more than 18 credits must petition the Academic and Curriculum committee for approval.

A part-time student must carry a minimum load of 5 credits per semester. Students who wish to register for fewer than 5 credits must petition the Academic and Curriculum committee for approval.

### **Policy on Course Registration**

MPH students are not allowed to register for more than 6 credits of electives outside FHS without completing a minimum of 12 credits in the program.

Core courses are offered in the fall semester except for PBHL 301, which is offered in the spring only. All concentration courses are offered in the spring semester. All students must begin their studies toward the MPH with at least PBHL 300 and the core course in their area of concentration.

### **Policy on Changing Concentration**

The MPH program has three options for concentration: Epidemiology and Biostatistics, Health Behavior and Education, Health Management and Policy. Additionally, students with at least five years of work experience in public health practice may be eligible to apply to a customized MPH program. The customized MPH program allows students to take courses in two concentration areas.

Students may petition to transfer to another concentration. Petitions are reviewed in current and prospective departments in light of student academic performance, justification of transfer, and implications on the quota.

## **Policies and Procedures on Exemption and Transfer of Credits**

### **Policy on Exemption**

#### **A. Course Exemption**

Exemption from an FHS course may only be considered when the student has proof that s/he has satisfactorily completed a comparable course in a recognized university, faculty, or program, normally with a minimum grade of 80 or the equivalent. The requirement of this particular course may be waived, but not its credits (i.e., the candidate has to replace the exempted course credits with another course having the same number of credits) except in the case of a practicum exemption when both the course and the credits are waived. The course instructor may require that the petitioning student take an exam in order to demonstrate proficiency in the subject prior to the official registration period for the required course. In cases where students want to take a course in another faculty and equate it for a required course in the MPH program, the course instructor (or relevant department chairperson) must approve the petition for equating courses prior to the student registering in the course.

**B. Practicum Exemption**

In cases where students are judged to have public health experience that is both relevant and sufficient to their chosen area of concentration, they may be exempted from the practicum. Decisions related to exemption are based on the submission of a petition letter to the FHS practicum coordinator, along with supporting evidence of experience. In cases where students are exempted from the practicum, they are required to complete only a total of 36 credit hours of course work. The practicum exemption must be in the student's file prior to registering for the final semester of study.

**Policy on Transfer of Credits**

A transfer of credits may be considered when a course is satisfactorily completed with a minimum grade of 80, or equivalent, at a recognized university, faculty, or program. This is accepted as such in lieu of credits earned in a comparable course in FHS, provided that the candidate has not already used the credits of the course to obtain or be awarded a degree, diploma, or certificate. Credits are to be used only once as a currency unit toward only one degree or diploma or certificate. However, for courses taken within the Faculty of Health Sciences, the academic and curriculum committee will consider a minimum grade of 75 for transfer of credits.

The number of credits that can be transferred can not exceed 12 credits of comparable courses at FHS. It is further deemed preferable not to exempt or transfer core-required courses unless the instructor, department, or committee concerned is fully confident of the nature and content of the courses in relation to FHS courses.

**Procedure For Exemption and Transfer of Credits**

To exempt or transfer courses, the candidate should submit to the concerned department chairperson, after consulting with the adviser, the following official documents:

- a letter of request for exemption and/or transfer
- the official catalogue of the transferring institution
- a detailed description of course content and syllabus
- an official statement of records/grades earned for the course(s)

For both exemption and transfer of credits, the programs, departments, or universities concerned must be deemed comparable to AUB's standing, such as common membership in a professional association.

The chairperson of the department concerned should seek, in writing, the opinion of the course instructor(s) and the department faculty, and then submit the recommendation of the department, along with the supporting documents, to the FHS academic and curriculum committee for final approval.

**Placement on Probation**

A student is placed on probation if one of the following occurs:

- s/he fails in any graduate course taken for credit (passing grade is 70)
- s/he fails to obtain a minimum semester average or its equivalent (12 credit hours for part-time students) of 78 in graduate courses

A student with an admission score of at least 75, but less than 80, will be admitted on probation.

**Removal of Probation**

A student will be removed from probation at the end of a semester or its equivalent for part-timers (12 credit hours) if s/he has passed all courses and attained a semester average of 78.

**Dismissal from the Program**

A student on probation may be dismissed upon the recommendation of the academic and curriculum committee if one of the following occurs:

- fails to remove probation after one semester or its equivalent for part-timers (12 credit hours)
- in the judgment of the academic and curriculum committee, is not making satisfactory academic progress, has not shown sufficient professional promise, or behaved in contempt of the norms and values upheld by the faculty

# Curricula

## Master of Public Health

<b>I. Core Courses (Required of all MPH Students)</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
PBHL	300	Health and Environment I	2	2	3
PBHL	301	Health and Environment II	2	0	2
IDHL	310	Research Design	3	0	3
EPHD	311	Epidemiology and Biostatistics <sup>3</sup>	3	2	4
HMPD	302	Health Management and Policy	3	0	3
HBED	305	Communication Skills for Health Professionals <sup>4</sup>	1	2	2

## II. Concentration Courses

### A. Epidemiology and Biostatistics

<b>Required Courses</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
EPHD	312	Biostatistics II—Analysis of Continuous Data	2	2	3
EPHD	313	Biostatistics III—Analysis of Categorical Data	2	2	3
EPHD	320	Design and Analysis of Epidemiological Studies	2	2	3
EPHD	323	Epidemiology of Infectious and Chronic Diseases	3	0	3
EPHD	340	Seminar			0

<b>Public Health Experience</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
EPHD	345	Research Project <sup>5</sup>	1	2	2
EPHD	365	Practicum <sup>6</sup>	0	30	4
PBHL	355	Orientation to Health Programs and Health Care Facilities <sup>7</sup>			0
PBHL	398	Culminating Experience			0

To complete credit requirements, students in this group should take at least 8 credits of electives (depending on practicum exemption).

3 Students may be exempted from EPHD 311 provided they satisfy the exemption criteria (p.494). For non-EB concentrators, two of the exempted credits must be replaced with an epidemiology or biostatistics course.

4 Not required for those who took HBED 203 (health communication). Credits must be replaced.

5 Students concentrating in epidemiology and biostatistics may be exempted from doing the research project if a practicum is taken.

6 Students may be exempted from doing the practicum if they have sufficient health-related experience in their concentration area.

7 Not required for students exempted from the practicum.

**B. Health Behavior and Education**

<b>Required Courses</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
HBED	331	Theories of Behavior Change	2	0	2
HBED	332	Community Health and Development	2	0	2
HBED	333	Communication for Health	2	2	3
HBED	334	Qualitative Health Research Design and Evaluation of	1	2	2
HBED	335	Health Programs	2	2	3
HBED	340	Seminar			0

<b>Public Health Experience</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
HBED	345	Research Project	1	2	2
HBED	365	Practicum <sup>8</sup>	0	30	4
PBHL	355	Orientation to Health Programs and Health Care Facilities <sup>9</sup>			0
PBHL	398	Culminating Experience			0

Students in this group should take at least five credits of electives to complete their credit requirements.

**C1. Health Management and Policy-Hospital Management Track**

<b>Required Courses</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
HMPD	311	Health Information Systems	2	0	2
HMPD	314	Project Management	2	0	2
HMPD	315	Performance Improvement	3	0	3
HMPD	342	Financial Management and Accounting	3	0	3
HMPD	351	Healthcare Economics and Finance <sup>10</sup>	2	0	2
HMPD	340	Seminar			0

<b>Public Health Experience</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
HMPD	345	Research Project	1	2	2
HMPD	365A	Practicum <sup>11</sup>	0	30	4
PBHL	355	Orientation to Health Programs and Health Care Facilities <sup>12</sup>			0
PBHL	398	Culminating Experience			0

Students in this group should take at least 5 credits of electives to complete their credit requirements

<sup>8</sup> Students may be exempted from doing the practicum if they have sufficient health-related experience in their concentration area.

<sup>9</sup> Not required for students exempted from the practicum.

<sup>10</sup> A prerequisite for this course is HMPD 251 or an undergraduate course in economics.

<sup>11</sup> Students may be exempted from doing the practicum if they have sufficient health-related experience in their concentration area.

<sup>12</sup> Not required for students exempted from the practicum.

**C2. Health Management and Policy-Lab Management Track**

<b>Required Courses</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
HMPD	311	Health Information Systems	2	0	2
HMPD	330	Clinical Lab Management: Principles and Applications	3	0	3
HMPD	332	Quality Assurance Practices in Health Care Laboratories	3	0	3
HMPD	342	Financial Management and Accounting	3	0	3
HMPD	351	Healthcare Economics and Finance	2	0	2
HMPD	340	Seminar			0

<b>Public Health Experience</b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
HMPD	345	Research Project	1	2	2
HMPD	365B	Practicum <sup>13</sup>	0	30	4
PBHL	355	Orientation to Health Programs and Health Care Facilities <sup>14</sup>			0
PBHL	398	Culminating Experience			0

Students in this group should take at least 4 credits of electives to complete their credit requirements.

<b>III. Electives<sup>15</sup></b>			<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
EPHD	321	Design and Analysis of Clinical Trials	1	2	2
EPHD	322	Special Topics in Epidemiology	2	0	2
EPHD	324	Special Topics in Biostatistics	–	–	1-3
EPHD	331	Population Change and Health	3	0	3
EPHD	332	Population and Health Policy	3	0	3
EPHD	333	Special Topics in Population Health	3	0	3
EPHD	334	Reproductive Health	2	0	2
HBED	341	Special Topics in Health Behavior and Education—Special Populations	1	2	2
HBED	342	Special Topics in Health Behavior and Education—Exploring the Context of Intervention	1	2	2
HBED	343	Anthropology and Public Health	2	2	3
HBED	344	Workshop Development	1	0	1
HMPD	316	Marketing in Health Care	2	0	2
HMPD	317	Materials Management in Health Services Organizations	2	0	2
HMPD	318	Policy and Decision Making in Health Care	2	0	2
HMPD	319	Strategic Management of Health Care Organizations	1	0	1
HMPD	320	Governance in Health Care	1	0	1
HMPD	339	Tutorial in Health Management and Policy	–	–	1-3
HMPD	354		1	0	1

<sup>13</sup> Students may be exempted from doing the practicum if they have sufficient health-related experience in their concentration area.

<sup>14</sup> Not required for students exempted from the practicum.

<sup>15</sup> Consent of the department is required.

## Master of Science in Epidemiology

<b>Required Courses</b>		<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
PBHL 300	Health and Environment I	2	2	3
IDHL 310	Research Design	3	0	3
EPHD 311	Epidemiology and Biostatistics I <sup>16</sup>	3	2	4
EPHD 313	Biostatistics III—Analysis of Categorical Data	2	2	3
EPHD 320	Design and Analysis of Epidemiological Studies	2	2	3
EPHD 323	Epidemiology of Infectious and Chronic Diseases	3	0	3
EPHD 340	Seminar	1	0	0

<b>Electives</b>		<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
EPHD 312	Biostatistics II: Analysis of Continuous Data	2	2	3
EPHD 321	Design and Analysis of Clinical Trials	1	2	2
EPHD 322	Special Topics in Epidemiology	2	0	2
EPHD 324	Special Topics in Biostatistics	–	–	1-3

Students should take at least 5 credits of electives and may choose electives from other departments and faculties.

<b>Thesis</b>		<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
EPHD 399	Thesis			6

## Master of Science in Population Health

<b>Required Courses</b>		<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
PBHL 300	Health and Environment I	2	2	3
IDHL 310	Research Design	3	0	3
EPHD 311	Epidemiology and Biostatistics I <sup>17</sup>	3	2	4
EPHD 313	Biostatistics III—Analysis of Categorical Data	2	2	3
EPHD 330	Methods in Population Analysis	2	2	3
EPHD 331	Population Change and Health	3	0	3
EPHD 340	Seminar	1	0	0

<sup>16</sup> Students may be exempted from EPHD 311 provided they satisfy the exemption criteria (p.494).

<sup>17</sup> Students may be exempted from EPHD 311 provided they satisfy the exemption criteria (p.494).

		<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
<b>Electives</b>				
EPHD 312	Biostatistics II: Analysis of Continuous Data	2	2	3
EPHD 324	Special Topics in Biostatistics	–	–	1-3
EPHD 332	Population and Health Policy	3	0	3
EPHD 333	Special Topics in Population Health	3	0	3
EPHD 334	Reproductive Health	2	0	2

Students should take at least 5 credits of electives and may choose electives from other departments and faculties.

		<b>Lecture Hrs./ Week</b>	<b>Lab Hrs./ Week</b>	<b>Credit Hrs.</b>
<b>Thesis</b>				
EPHD 399	Thesis			6

## Interdisciplinary Courses

### **PBHL 200 Introduction to Public Health 2.0; 2 cr.**

An introduction to public health. This course begins with a general overview of health, disease, and public health. Students are then exposed to (1) the professional disciplines of public health and to the field of lab sciences; and to (2) current issues in public health and lab sciences. This course ends with a discussion of the values and ethics of public health. *First and/or second semester.*

### **PBHL 300 Health and the Environment I 2.2; 3 cr.**

An introduction to public health and its professional disciplines. Topics covered include a general overview of health, disease, and public health, as well as the major determinants of health, and their influence on health outcomes. These include demographic, psychosocial, socio-cultural, political, and environmental determinants. Throughout the course students use case studies, apply theory, learn analytical and critical thinking, and discuss ethical issues in public health.

### **PBHL 301 Health and the Environment II 2.0; 2 cr.**

An introduction to integrative approaches to intervention and to frameworks and paradigms of thought that are important in public health as a profession, and that cut across the various disciplines within public health. Some of these approaches or paradigms include the ecological approach; the needs approach; development theory; interdisciplinary and multilevel frameworks of health determinants; and globalization, among others. *Prerequisite: PBHL 301.*

**PBHL 355                      Orientation to Health Programs  
and Health Care Facilities                      0 cr.**

This course orients students to the health programs and health care facilities where they will be conducting their practicum. Students rotate among divisions within the health care organization, get insight into the philosophical underpinnings of programs and facilities, understand the mission and objectives of programs and organizations, and interact with staff and clients in an informal or more structured manner.

**PBHL 398                      Culminating Experience                      0 cr.**

The objective of the culminating experience is to provide students with an opportunity to demonstrate an ability to apply core and concentration competencies within a chosen professional context. The culminating experience is linked to the research projects for students exempt from the practicum, and to the practicum for all other students. The culminating experience takes place in the last semester and consists of a research/practicum paper and presentation, which broadly addresses all the core disciplines of public health, with a focus on a student's concentration area. *Prerequisite: PBHL 355 and completion of all, or all but one, of the core and concentration courses.*

## Interdepartmental Courses

**IDHL 310                      Research Design                      3.0; 3 cr.**

An introduction to health research approaches. This course discusses principles of research design and the methods used in both quantitative and qualitative social research methodologies. Topics include formulation of research questions, literature review, sampling issues, methods of data collection, and qualitative analysis. Practical ethical issues are also discussed.

**IDTH 206–207                      Social and Preventive Medicine<sup>21</sup>                      34.46; 4 cr.**

A course that explores the inter-relationships among the patient, physician, and society. It is divided into two parts. The first is a lecture and discussion series (2 credits) that examines health and disease, the social and individual determinants of health, health care systems, and the patient-physician relationship. The second part (2 credits) is a field project during which students investigate a health issue at the level of the community.

**IDTH 268                      Clerkship in Preventive Medicine and Public Health<sup>22</sup>                      10.80**

A clerkship in which teams of senior medical students assess, critique, and propose solutions to problems of public health or clinical significance. The students examine policy, organizational, social, and individual challenges to these problems, addressing issues such as equity in health and setting public health programs, and identifying opportunities for change. Data collection and statistical analysis are secondary objectives.

<sup>18</sup> Public Health courses taught by FHS in the Faculty of Medicine.

<sup>19</sup> Public Health courses taught by FHS in the Faculty of Medicine.