UTHealth Houston

School of Public Health

UTHealth Houston
School of Public Health
2023-2024 Academic Catalog

The University of Texas Health Science Center at Houston is accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to award baccalaureate, masters, doctoral, and professional degrees. Degree-granting institutions also may offer credentials such as certificates and diplomas at approved degree levels. Questions about the accreditation of The University of Texas Health Science Center at Houston may be directed in writing to the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, GA 30033-4097, by calling (404) 679-4500, or by using information available on SACSCOC's website (www.sacscoc.org).

COVID-19 UPDATE

The UTHealth Houston School of Public Health continues to monitor the impact of COVID-19 and continues to make updates to school operations in the interest of our community's health and safety. Current and incoming students are required to complete all degree requirements as defined in the catalog for the year they matriculated into their degree program. The modality/delivery of courses may be altered in accordance with UTHealth, Center for Disease Control and Prevention and other federal, state and local government agency guidelines as suggested for reducing the transmissibility of COVID-19. Faculty, staff and students can view updates to school operations on the UTHealth School of Public Health COVID19 Updates website here: https://sph.uth.edu/news/sphcovid19.

All decisions related to course delivery and student practicum experiences for the 2023-2024 academic year will be announced via email to students.

Additional information can be found on the UTHealth COVID-19 Resources website here: https://www.uth.edu/news/covid-19/.

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SCHOOL LEADERSHIP

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Chair, Department of Epidemiology, Human Genetics and Environmental Sciences

Jack Tsai, PhD
Regional Dean, San Antonio

Hulin Wu, PhD
Chair, Department of Biostatistics and Data Science

Faculty Directory

School of Public Health faculty listings can be found on the SPH Faculty Directory website at
https://sph.uth.edu/faculty/index.htm.

Vision, Mission & Values

Our vision: Health without boundaries.

Our mission: Changing the culture of health through excellence in graduate education, research and engagement.

To achieve a world in which health has no boundaries, we must first shift the way people—from the communities around us to the healthcare industry to decision-makers in government—think about, and act on, matters relating to health.

Our values: Collaborate, Lead, Transform, Diversify.

Accreditations
More information on any of the following accreditations can be found on the School of Public Health Accreditation website here: https://sph.uth.edu/about/accreditation.

Council on Education for Public Health (CEPH)
Since 1969, UTHealth School of Public Health has been accredited by the Council on Education for Public Health (CEPH) every seven years, and was most recently accredited in 2020.

Applied and Natural Science Accreditation Commission of ABET
The Industrial Hygiene curriculum is an optional special program of the Master in Public Health (MPH) in Environmental Health. The master's level Industrial Hygiene curriculum is accredited by the Applied and Natural Science Accreditation Commission of ABET, http://www.abet.org/. For more information about this program, see the Special Programs section.

Academy of Nutrition and Dietetics
The Accreditation Council for Education in Dietetic
The Dietetic Internship Program, an optional special program of the MPH in Health Promotion/Health Education, is fully accredited by the Academy of Nutrition and Dietetics. This program is also approved by The Accreditation Council for Education in Dietetic. For more information about this program, see the Special Programs section.

Accreditation Council for Graduate Medical Education (ACGME)
The Occupational and Environmental Medicine Residency Program, an optional special program of the MPH in Environmental Health, is accredited by the Accreditation Council for Graduate Medical Education (ACGME). For more information about this program, see the Special Programs section.

Commission on Accreditation of Healthcare Management (CAHME)
The MPH in Healthcare Management is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME). For more information about this program, see the MPH in Healthcare Management course of study.

The Master of Public Health (MPH) degree program satisfies the academic requirement for certification by the American Board of Preventive Medicine in the areas of public health, occupational medicine, aerospace medicine, and preventive medicine; the National Board of Public Health Examiners; and the National Commission for Health Education Credentialing.

The UTHealth Houston School of Public Health Office of Academic Affairs and Student Services serves to assist students from admittance to graduation.

Career and Alumni Services

Career and alumni services is housed within the Office of Public Health Practice and Engagement and provides information, service, training and support to students and alumni that can help them explore their values, interests, and skills; build their professional network; and stay engaged with the UTHealth School of Public Health.

Financial Assistance

UTHealth Houston School of Public Health offers a number of endowed scholarships. Graduate scholarships are awarded on the basis of scholastic excellence and adequate preparation for graduate study in the student's chosen field, as shown by the student's academic record. Scholarship eligibility criteria include admission into a degree program; enrollment in coursework leading to the degree; reasonable progress in the degree program; good academic standing; GPA; and in some cases test scores; references; and personal statements. There are additional specific qualifications for scholarships in various areas of study. Students are encouraged to contact the School of Public Health Office of Academic Affairs and Student Services to obtain information about eligibility criteria and scholarships awarded in the student's area of study. Scholarships may be available based on funding; availability may change, amount may change, and only competitive scholarships of $1,000 or more will be eligible for resident tuition. For more information about financial assistance opportunities, see the UTHealth Houston Office of Student Financial Services website (https://www.uth.edu/sfs/index.htm) and the UTHealth School of Public Health Financial Assistance website (https://sph.uth.edu/enroll/finance/index.htm),

Selection Process

Awards of traineeships and scholarships are made by the UTHealth Houston School of Public Health Scholarship and Traineeship Committee, which is composed of faculty members and administrative staff. In awarding scholarships, the committee considers the following as appropriate to achieve the donor's scholarship intent: faculty recommendations, academic performance, financial need, research interests, and other professional and personal achievements

Fellowships

A limited number of fellowships are available through the research centers of UTHealth Houston School of Public Health. Applications for these fellowships is made directly to the centers. Selection criteria include those listed above, and the recipients are chosen by the faculty in the centers.

Library & Graduate Communication Center

The mission of the UTHealth Houston School of Public Health Library & Graduate Communication Center is to provide primary information support services for the education, research, and community health services programs of the faculty, students, and staff. Writing Support Services offers public health communication skills training, with a focus on writing. Instruction is provided in the areas of English as a Second Language (ESL), Academic and Scientific Writing.

The UTHealth Houston School of Public Health Library & Graduate Communication Center is a member of the Texas Health Science Libraries Consortium (THSLC), which is the collaboration of health science libraries in the Houston-Galveston area. The THSLC leads and encourages collaboration through shared digital library environments and resources to provide access to the world of information for its educational, clinical, and research communities. For more information, see the Library & Graduate Communication Center website here: https://sph.uth.edu/research/library/index.htm.

Student Organizations

The Student Association at UTHealth School of Public Health is based at the Houston campus and acts as the official student governance organization to represent students with school administration. All students are included in this organization.

Student Communication

Email accounts constitute the official mode of communication linking students, faculty, and/or administration. Consequently, students are responsible for maintaining the UTHealth e-mail account assigned to them and activated upon payment of tuition and fees, and are responsible for regularly checking e-mail messages.

School of Public Health Policies
All of the following policies can be found on the mySPH Policies webpage at https://uthealthsph.force.com/UTHealth-Community/s/policies.

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Policy 403, Readmission to a Degree Program
Policy 404, Transfer of Students between the UTHealth SPH Campuses
Policy 405, Verification of Degrees for International Applicants
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UTHealth Houston Handbook of Operating Procedures (HOOP)
Students are charged with knowledge of and compliance with all UTHealth Houston regulations concerning student conduct and discipline as set forth in the UTHealth Houston Handbook of Operating Procedures (HOOP). Students are expected to sign a pledge adhering to the school's honor code during new student orientation.
HOOP Policy 186, Student Conduct and Discipline (https://www.uth.edu/hoop/policy.htm?id=1448220)

Policy 100, Student Academic Grievance Process
The School of Public Health expects its students to put forth their best effort and assume the primary responsibility for meeting their academic and professional goals, but recognizes that there may be instances when students raise academic grievances. Students should first attempt to resolve their academic grievance informally, such as meeting with their faculty member, their faculty advisor, and/or the department Chair. When these informal methods do not resolve the student's grievance, students may request a review and recommendation from the Academic Grievance Committee through its Academic Grievance Resolution Process.

For the complete policy statement, see Policy 100, *Student Academic Grievance Process*.

Policy 201, Course Grading
Letter grades ("A," "B," "C," or "F") are given for all MPH core courses. Elective courses may be letter-graded or graded on the basis of pass/fail ("P" or "F") at the discretion of the instructor. Grades in pass/fail courses will not be included in the GPA calculation. A GPA will be calculated from all letter-graded courses. In computing GPA per hour, the following scores are used: A = 4 points; B = 3 points; C = 2 points; F = 0 points. The GPA is calculated by multiplying the grade points by the number of credit hours for each course. Repeated courses will be listed on the transcript along with the original course. However, please note the following stipulations:

- Students have the opportunity to retake a course only one time for recalculation of the GPA. GPA recalculations are not automatic. The GPA will be calculated on the letter-graded course only using the grade from the re- peated course.
- A third attempt is rarely approved, and will only be considered if the first two attempts were failures. Students may petition to the Office of Academic Affairs and Student Services to retake a course a third time.
- The final attempt will be the grade calculated into the GPA.
- Students who do not request a GPA recalculation for a repeated course will have both course grades calculated into the GPA.

An Incomplete ("I") will revert to an "F" if the coursework is not successfully completed after one semester. However, at the course instructor's discretion, a grade may be entered to replace the "F" when the work from the incomplete is com- pleted. A "W" grade is assigned when a student withdraws from a course.

For the complete policy statement, see Policy 201, *Course Grading*.

Policy 308, Transfer of External Credits, Course Substitutions and Waivers
For students entering fall 2018 and thereafter, up to nine (9) graduate semester credit hours earned at other accredited institutions may be transferred and applied to UTHealth School of Public Health graduation requirements if approved by the UTHealth Houston School of Public Health Office of Academic Affairs and Student Services and the student's faculty advisor. Transfer of external credit hours, course waivers and substitutions may only apply towards degree required lev- eling, elective, minor, or breadth coursework not linked to program required competencies. Major required courses can- not be waived or substituted. These hours must not have been applied toward another awarded degree. See Policy 308 for detailed information and processes.

For dual degree programs, shared credit hours are earned in courses that are part of an agreed upon curriculum. Up to 12 completed credit hours applied toward the MPH degree requirements can be from the partner institution provided that the course has been reviewed and recommended by the student's advisory committee and approved by the UTHealth Houston School of Public Health Office of Academic Affairs and Student Services. This applies to all concur- rent/dual degree programs and external transfer credits. Students should contact the program coordinator for the dual degree program for further information.

General non-degree and certificate students can transfer up to 16 semester credit hours of UTHealth Houston School of Public Health coursework if accepted into a degree program, a grade of "A" or "B" is earned in the course, and the course is completed within five (5) years prior to matriculation into the degree program. Credit hours earned as part of a mas- ter's degree program do not count toward a doctoral degree program.

For the complete policy statement, see Policy 308, *Transfer of External Credits, Course Substitutions and Waivers*.

Policy 402, Enrollment Requirements, Degree Time Limits, and Leaves of Absences
A student is classified as "full-time" if enrolled in at least nine (9) semester credit hours during the fall or spring semes- ters, at least six (6) semester credit hours during the summer.

Required Enrollment. Enrollment is required in the semester in which the research proposal is submitted and continu- ously through the semester in which all requirements for graduation are completed. Enrollment is required during the semester in which the preliminary examination is taken and in the semester in which the student is involved in a practi- cum/internship. Enrollment is required in the semester in which students graduate. Students must maintain enrollment so that any absence from the degree program does not exceed one (1) calendar year (three (3) consecutive semesters) unless a formal leave of absence is granted.

<u>Time Limits for Degrees and Extensions.</u> Students are expected to complete master's degree programs (MPH and MS) within five (5) years and doctoral degree programs (DrPH and PhD) within seven (7) years. In case of extenuating circumstances, a student may request a one-year extension. The possibility of a second year of extension exists under extraordinary circumstances. Students who do not graduate within the approved time limit will be dismissed from the program and must be readmitted in order to complete the degree program in effect at the time of readmission.

<u>Non-Enrollment.</u> UTHealth Houston School of Public Health recognizes that in some instances, students may need to take time away from their studies to attend other important aspects and events in their lives. If such events are limited to a single semester, the student may choose not to enroll for that semester without unduly slowing the degree program. Students who may need to be away for more than one (1) semester, should seriously consider requesting a Leave of Absence (LOA) in order to preserve continuing student status. . If the student does not request or is not granted a LOA and does not enroll for one calendar year (three (3) consecutive semesters) the student is automatically dismissed from the School and will need to seek readmission to return to their degree program.

<u>Leave of Absence (LOA).</u> Students who anticipate interrupting their degree program for more than two (2) semesters should consider requesting a LOA. The LOA "stops the clock" on the student's degree program and does not add to the timeline for completing the degree. The LOA is granted for one (1) calendar year. A second year may be granted. Students who need to be away from the school for longer periods should consider withdrawing from the degree program and applying for readmission when their situation improves. The student may enroll in classes at any time during the LOA if his/her situation changes and the LOA is no longer needed.

For the complete policy statement, see Policy 402, *Enrollment Requirements, Degree Time Limits, and Leaves of Absence.*

Student Technical Requirements

Students at UTHealth Houston School of Public Health must have a personal computer (i.e. laptop or tablet) available to them as a graduate student. For software not provided through the virtual computer lab, the school provides reduced software prices through the UT Bookstore for certain required software titles, including Windows Operating System, MacOS, Microsoft Office, and certain statistical software products required to use during study. For compatibility purposes, students should have access to a personal computer running the latest version of either the Windows Operating System or Macintosh Operating system. However, students should note that the most commonly used platform is the Windows Operating System.

All students are provided with a UTHealth Houston user account, which offers access to a Web-based electronic mail application (Outlook), an online learning management system (Canvas), the ability to connect personal wireless computers within campuses, and a file repository and sharing system.

All students **need to** have a computer with the following minimum requirements and recommendations:

Operating System	Windows 10 or higher, Mac OS X 11.1 (Big Sur) or higher
Web Camera	Resolution at least 1280 x 720, should also include a microphone
Memory (RAM)	8 GB minimum, 16 GB or more is recommended
Browser	Edge Chromium, Chrome, Firefox
Internet Speeds	Preferred: DSL and Cable connectivity form outside the campus. Dialup and ISDN services will not provide enough bandwidth for most applications to function properly.
Antivirus Software	You must have Antivirus software. Windows 10 has built-in anti-virus software (Defender). Sophos Antivirus for Mac users is free.
Proctor Software	You can test your system's compatibility with our proctor solution at, http://www.proctoru.com/testitout/.
Other Software	Access to most course software through a virtual computer lab environment is provided. This system is called Parallels. You can gain access to the software and instructions for configuring the software on the "Students" section of the IT Services website. Parallels software clients are available for both Windows and Mac operating systems. Additionally, Microsoft Office is the primary application tool used by all faculty. Regardless of your operating system, you will be most compatible with your faculty if you have Microsoft Office installed.

ADMISSIONS

The following sections describe the application procedures, application deadlines and admissions procedures. For more information, see the School of Public Health [Admissions](https://sph.uth.edu/enroll/admissions/index.htm) website at https://sph.uth.edu/enroll/admissions/index.htm.

APPLICATION PROCEDURES AND DEADLINES

Application Procedures

All applications to UTHealth Houston School of Public Health are received and processed by the centralized application service, [School of Public Health Application Service (SOPHAS)](http://www.sophas.org/) (http://www.sophas.org/) or [SOPHAS Express](https://sophasexpress.liaisoncas.com/applicant-ux/#/login) (https://sophasexpress.liaisoncas.com/applicant-ux/#/login). This application service is intended to streamline the application process as applicants are able to upload one set of application materials, including institutional transcripts, reference letters, statement of purpose and objectives and standardized test scores, if applicable. All supporting documentation detailed below is required of those applicants submitting their applications through either SOPHAS or SOPHAS Express, unless otherwise noted.

Degree-seeking Students

The degree-seeking application process is used for students seeking admission into one of the UTHealth Houston School of Public Health degree programs. All degree-seeking applications, including supporting documentation, are received and processed by [SOPHAS](). Detailed instructions for submission of applications using SOPHAS are described on the [SOPHAS]() website.

Applicants to dual degree programs apply to each institution independently of the respective complementary dual degree program. More information about dual degree programs can be found in the [dual degree programs]() section of this catalog.

Applicants seeking readmission should refer to *Policy 403 Readmission to a Degree Program* under the [Academic Policies]() section of this catalog.

Non-degree Seeking Students

The non-degree application process is used for students seeking admission into one of the UTHealth Houston School of Public Health non-degree programs, non-degree graduate certificate programs, or pre-approved re-admission. All non-degree applications, including supporting documentation, are received and processed by [SOPHAS Express](). Detailed instructions for submission of applications using SOPHAS Express are described on the [SOPHAS Express]() website.

Required Application Materials for All Applicants

The following contains the elements of the application materials required when submitting materials to either [SOPHAS]() or [SOPHAS Express](). More information about required application materials can be found on the [Admissions]() website.

1. *Personal Statement and Objectives*

Applicants should describe their interests in public health in the personal statement and objectives section of the application. The essay should address educational goals specific to the chosen program of study. Applicants should also describe career goals as well as any experience relating to the health field, research, community service, and leadership positions. Applicants are encouraged to describe how significant life experiences have influenced their motivation, qualifications, or academic record. The personal statement and objectives are central to the admissions decision and is read by the admissions committee. *Note: Personal statement and objectives are screened for plagiarism. Evidence of plagiarism will result in an automatic denial of admission.*

2. *Evidence of Proficiency*

Evidence of proficiency in basic mathematical or other quantitative skills, documented through transcripts, publications, or a statement describing how this proficiency was achieved, or will be achieved, prior to enrollment.

3. *Application Fee*

Students apply through either SOPHAS (degree-seeking applicants) or SOPHAS Express (certificate or non-degree-seeking applicants). The application fee through SOPHAS is based upon a sliding scale determined by the number of schools and

programs to which the applicant is intending to apply. The cost for a SOPHAS application is $145 for the first school or program to which the student applies. Any additional schools or programs to which a student chooses to apply will cost $55 per designation, even if the application is submitted later in the application cycle. The cost for a SOPHAS Express application is $55 per program. More information about SOPHAS fees can be found here: https://help.liai-sonedu.com/SOPHAS_Applicant_Help_Center/Starting_Your_SOPHAS_Application/Getting_Started_with_Your_SOPHAS_Application/03_Application_Fees and SOPHAS Express fees found here: https://help.liai-sonedu.com/SOPHAS_Express_Applicant_Help_Center/Starting_Your_SOPHAS_Express_Application/Getting_Started_with_Your_SOPHAS_Express_Application/03_Application_Fees#:~:text=SOPHAS%20Express%20charges%20a%20processing,and%20how%20to%20pay%20it.

4. Official Transcripts
Transcripts must include both grades and credit hours. International applicants are required to submit World Education Services (WES) evaluations of their transcripts to SOPHAS. See *Transcript Credential Evaluation* for more information.

Degree-seeking applicants: Applicants should submit official transcripts covering all periods of postsecondary enrollment in all accredited institutions of higher education attended. Copies of transcripts sent by the applicant are not considered. Applicants should request that all institutions attended send official, original transcripts directly to SOPHAS to one of the appropriate addresses:

For regular mail, please send to:	*For overnight delivery ONLY, please send to:*
SOPHAS Transcript Processing Center	SOPHAS c/o Liaison International
P.O. Box 9111	311 Arsenal Street
Watertown, MA 02471-9111	Watertown, MA 02472
	Phone: 617-612-2090

Information on sending official US transcripts electronically can be found online here: https://help.liai-sonedu.com/SOPHAS_Applicant_Help_Center/Sending_Your_Official_Transcripts_and_Test_Scores_to_SOPHAS. .

Non-degree seeking applicants: Applicants should upload unofficial transcripts covering all periods of postsecondary enrollment in all accredited institutions of higher education. In the event the applicant is admitted, they will also need to provide official, original transcripts directly to the UTHealth Office of the Registrar.

5. Transcript Credential Evaluation
Transcripts for an educational credential evaluation and determination of United States equivalency is required from applicants who hold degrees from institutions outside of the United States. The minimum requirement is to submit a credential evaluation that demonstrates the applicant holds, at a minimum, the equivalent of a bachelor's degree or a professional degree from an accredited institution from the foreign country. A Course-by-Course International Credential Advantage Package (ICAP) with a GPA calculation is required. This can be accomplished by submitting transcripts to:

World Education Services (WES)	World Education Services Contact Information:
WES Global Documentation Centre	Phone: (212) 966-6311
PO Box 2008 STN Main	Email: info@wes.org
Newmarket, ON, L3Y 0G5	Website: http://wwww.wes.org/

Final transcript credential evaluation results must be submitted directly to SOPHAS by WES.

6. Letters of Recommendation
Applicants are required to submit letter(s) of recommendation from individual(s) qualified to evaluate the applicant's academic or professional performance, ability, motivation, and character. Academic letters of reference are preferred. All submitted letters should be on official letterhead.

Degree-seeking applicants: At least three letters of recommendation are required.

Non-degree seeking applicants: At least one letter of recommendation is required.

7. Entrance Examinations

Degree-seeking applicants: Entrance exam scores (GRE/GMAT/MCAT) are optional for all MPH and MS programs. For all doctoral programs, students are encouraged to submit entrance exam scores; however, the following programs require applicants to submit these scores:

- DrPH in Community Health Practice
- PhD in Epidemiology
- PhD in Environmental Sciences, Environmental Disease Prevention Track
- PhD in Environmental Sciences, Total Worker Health® Track
- PhD in Health Economics and Health Services Research
- PhD in Healthcare Management and Policy

Entrance exam score is but one of several factors considered in the aggregate during the admission process. The GRE is administered at many universities across the United States and in many foreign cities. Only scores received directly from the Educational Testing Service (https://www.ets.org/) will be considered. Applicants should submit GRE scores to SOPHAS using the reporting code 4479.

Official GMAT scores should be mailed to:

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ATTN: Admissions
UTHealth Houston School of Public Health
1200 Pressler Street, RAS E-201
Houston, TX 77030

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Non-degree seeking applicants: Non-degree applicants applying through SOPHAS Express are not required to submit entrance examination records.

Exemptions to the Entrance Exam requirement:
- Applicants holding previously-earned doctoral-level degrees from accredited U.S. universities may request an exemption;
- Applicants to dual degree programs that have a doctoral component (e.g., MD/MPH, PhD/MPH, Pharm D/MPH, or JD/MPH) are exempt from the GRE requirement, provided they hold an offer of admission to the partnering participating medical, graduate, pharmacy or law school.
- Applicants holding an international medical degree and holding Educational Commission for Foreign Medical Graduates certification may request a waiver provided they are currently practicing medicine or in an active residency program in the United States at the time of applying.
- MPH applicants who previously completed the UTHealth Houston School of Public Health General Public Health Certificate with a cumulative UTHealth Houston School of Public Health GPA of 3.4 or higher.
- Doctoral (DrPH or PhD) applicants who previously completed a UTHealth Houston School of Public Health master's program (MPH or MS) with a cumulative UTHealth Houston School of Public Health GPA or 3.4 or higher.

Waivers and exemption inquiries can be emailed to SPHAdmissionsTestWaivers@uth.tmc.edu; requests should include supplemental documentation for consideration.

8. *Additional Supporting Materials*
Any published papers, reports, or other materials believed to provide information on an applicant's capability and performance should be included in the application.

Degree-seeking applicants: Degree-seeking applicants should submit any additional supporting documents to SOPHAS and should follow the SOPHAS application instructions for guidance.

Non-degree-seeking applicants: Non-degree-seeking applicants should submit any additional supporting documents to SOPHAS Express and should follow the SOPHAS Express application instructions for guidance.

Additional Required Materials for International Applicants

9. *English Proficiency Exams*

International applicants are required to take the Test of English as a Foreign Language (TOEFL) or the International English Testing System (IELTS) unless specifically exempted.

Exemptions to the TOEFL or IELTS exam requirement:
- If you are a Permanent Resident or Citizen of the United States;
- If you earned a bachelor's, master's or doctoral degree from the United States;
- If the degree reviewed by the World Education Services (WE) Transcript Evaluation indicates that the mode of instruction was in English (3 or more years).
- If you earned a degree from an English-speaking country – Graduation with a diploma or degree (attended for at least 3 years or a standard period of attendance as required by the country; Bachelor's, Master's or Doctoral degree) from an accredited school from a recognized English-speaking country as listed below:

Antigua	Falkland Islands	Liberia	Turk & Caico Islands
Australia	Gambia	New Zealand	Uganda
Bahamas	Ghana	Nigeria	United Kingdom (UK)
Barbados	Grenada	Sierra Leone	US Virgin Islands
Bermuda	Guyana	St. Helena	Zambia
British Virgin Islands	Ireland	St. Kitts & Nevis	Zimbabwe
Canada	Jamaica	St. Vincent	
Cayman Islands	Kenya	Trinidad & Tobago	

Additional exemptions may be granted on a case-specific basis for those who do not meet the above criteria. Waivers and exemption inquiries can be emailed to SPHAdmissionsTestWaivers@uth.tmc.edu; requests should include supplemental documentation for consideration.

Minimum scores required:
For admission consideration, a minimum acceptable score on the internet-based TOEFL is 95, and a minimum acceptable overall score on the IELTS is 7.0. Test scores are considered valid for two (2) years from the test date. Applicants may submit scores to SOPHAS using the reporting code 5688 (TOEFL); no department code is needed. Official IELTS scores should be mailed to:

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ATTN: Admissions
UTHealth Houston School of Public Health
1200 Pressler Street, RAS E-201
Houston, TX 77030

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Application Deadline Dates for All Applicants

Degree-seeking applicants: Completed applications, with all supporting documents, must be received by:
- October 1 – Spring semester priority deadline for scholarship consideration & final deadline
- December 1 – Fall semester priority deadline for scholarship consideration
- February 1 – Fall semester deadline for Dietetic Intern applicants
- April 1 – Fall/Summer semester, all other applicants' final deadline

Non-degree seeking applicants: Completed applications, with all supporting documents, must be received by:
- November 1 – Spring semester
- April 1 – Summer semester
- July 1 – Fall semester

Applicants will be notified by e-mail of the Admissions Committee's decision within approximately 2-8 weeks of the date the application is completed and verified via SOPHAS, provided that all supporting materials are received by the application deadline.

ADMISSIONS PROCESS

Applicants are required to elect a single degree program located at a campus of UTHealth Houston School of Public Health. The faculty or faculty subcommittee of the appropriate program and campus review each application and all supporting documentation. Factors believed to contribute to the academic success of students and their subsequent contributions to the knowledge base and practice of public health are considered in each admissions action. The following criteria are evaluated through the application, transcripts, letters of recommendation, essay/personal statement, and CV/Resume. These criteria include:

- Career goals: particularly the intent to practice public health in underserved and vulnerable communities
- Community service: particularly service to diverse communities in need
- Educational goals: should be consistent with the chosen area of study
- Motivation: description of any special obstacles or challenges that have been overcome to achieve goals thus far
- Prior academic preparation: depth, breadth, and performance
- Relevant work experience: particularly public health practice or research related to underserved and vulnerable communities
- Official scores on entrance exams and English proficiency exams (if needed)
- Theses, publications, and other scholarly works: supplemental documents provided by applicant

Applicants may be contacted for personal interviews, and prospective students are encouraged to visit the School and discuss their proposed program with faculty and staff. The School's contact information can be found on the UTHealth Houston School of Public Health website. Admissions inquiries can also be emailed directly to SPHAdmissions@uth.tmc.edu.

applyUTH (https://my.uth.tmc.edu/psp/myuth/MYUTH/ENTP/h/?tab=UT_EP_NVT_SIGNON) is available for applicants to check on the status of their application and supporting documents. Enrolled students will use myUTH (https://eportal.uth.tmc.edu/) to access their official grades, register for classes, view and pay fees, check on the status of financial aid applications, submit address changes, and request official UTHealth transcripts. Policies related to transfer credits, maximum credits for enrollment in one term, and a criminal background check can be found in the Academic Policies section.

Direct Admission to a PhD Program
The School offers direct admission to the PhD in Biostatistics and PhD in Epidemiology programs. Additional admission requirements for these programs can be found in the PhD in Biostatistics, Direct Admission and PhD in Epidemiology, Direct Admission sections below. Students are required to meet all other admission requirements for a PhD program.

Conditional Admission to Doctoral Programs
With the exception of applicants admitted directly to a PhD program, applicants to doctoral programs are expected to hold a master's degree in the relevant discipline. Applicants with a prior master's degree, but with deficits (i.e., no MPH or lack of master's level discipline courses for a PhD) may be admitted with the conditions of completing required leveling courses. Once a student has completed the required leveling courses listed in the admissions letter, with a grade of at least a "B," the conditions will be removed from the student's record. Conditions must be met by the timeline mentioned in the admissions letter. Students who fail to complete the conditions will be discontinued from the doctoral program. Credit hours toward a doctoral degree program's graduation requirement begin to accrue at the time of enrollment in the degree program as follows:

- No credit hours for the leveling courses will be applied toward a doctoral degree but will be listed on the student's official transcript.
- DrPH students must have previous evidence of all five core MPH courses.

TUITION AND FEES

Tuition and fees are subject to change and become effective on the date enacted. The Texas Legislature does not set the specific amount for any particular student fee. Student fees are authorized by state statute; the specific fee amounts and the determination to increase fees are made by the university administration and The University of Texas System Board of Regents.

Required Fees for All Schools	Charge
Audit Fee	$25/course
Graduation Fee*	$100
Information Technology Access Fee	$40/semester
Installment Use Fee	$20
Late Payment Fee	$50
Late Registration Fee	$25
Return Check/E-Check Fee	$25
Credit Card Use Fee	2.50%
Student Record Fee	$5/semester
Student Services Fee**	$591.75/per 12-month
Reinstatement Fee (assessed when student re-enrolls after being dropped for non-payment on the 12th day of class)	$200

School of Public Health Required Fees	Charge
Computer Resource Fee	$62/semester
Liability Insurance—	
Fall Semester	$5.25
Spring Semester	$5.25
Summer Semester	$4.00
Library and Writing Services Fee	$60/semester
Portfolio Fee	$50/semester
Pre-Matriculation Planning Fee	$200/seat deposit
Student Orientation Fee (assessed upon matriculation)	$50
Technology Resource Fee	$200/semester
Program Fees	
Dietetic Internship Program Fee (PH 9997, sections 800 & 850)	$2,500 (each section)
Archer Program Fee (Summer only)	$3,900
Supplemental Fee—Accelerated MPH Program—San Antonio	$4,000/semester
Course Fees	
PH 2155 Environmental Sampling Analysis, Lab Fee	$10
PH 5031 Culinary Medicine	$75
PH 5032 Garden for Health	$75

*A graduation fee of $100 payable at registration for the final academic term is required of all students.

**The Student Services Fee, required of all students, provides for student health services, student counseling, student government, a shuttle service, and recreational facilities. The annual fee of $$591.75 is charged to students on a semester credit hour basis by semester. Breakdown of the fee is found on the Registrar's website under Tuition and Fee Schedule.

Health insurance is required of all UTHealth Houston students. If students have a health insurance policy, they may provide proof of comparable insurance to Auxiliary Enterprises no later than the 12th class to have this charge waived. Information regarding student health insurance can be found at the Auxiliary Enterprise website.

The current Tuition and Fee Schedules for UTHealth Houston can be found on the Office of Registrar website at https://www.uth.edu/registrar/current-students/registration/tuition-fee-schedule.htm.

Calendar for 2023-2024 Academic Year

	Fall 2023	Spring 2024	Summer 2024		
			12 Week Session	6 Week 1 Session	6 Week 2 Session
Semester Begins	August 28	January 8	May 20	May 20	July 2
Census Date	September 13	January 24	May 23	May 23	July 8
Last Day of Class	December 8	April 26	August 9	June 28	August 9
Final Exams	December 11-15	April 29-May 3	August 12-15	July 1	August 12-15

Academic calendars are subject to change. For the most current calendar, see the Office of the Registrar website.

Term Structure

Course credits correspond with contact hours per week per semester as shown in the chart below.

Credit Hours	Total Contact Hours	Contact Hours Per Week			
		Fall Semester 15 weeks	Spring Semester 15 weeks	Summer Semester 12-week session	Summer Semester 6-week session
1	15	1 hour per week	1 hour per week	1.25 hours per week	2.5 hours per week
2	30	2 hours per week	2 hours per week	2.5 hours per week	5 hours per week
3	45	3 hours per week	3 hours per week	3.75 hours per week	7.5 hours per week
4	60	4 hours per week	4 hours per week	5 hours per week	10 hours per week

Course Structure

A course prefix and catalog number represents the course modality, level and academic department as described in the chart below. All courses are graduate level courses. Students should seek advice from their faculty advisor and refer to their degree planner when selecting coursework to ensure courses will be applied toward their degree. Availability of courses is contingent upon sufficient registration.

Course Prefix	Modality and Level
PH	In-person and/or ITV; available to both master and doctoral-level students
PHM	In-person and/or ITV; available to master-level only students
PHD	In-person and/or ITV; available to doctoral-level only students
PHW	Online; available to both master and doctoral-level students
PHWM	Online; available to master-level only students
PHWD	Online; available to doctoral-level only students
Catalog Number	**Academic Department**
1000 – 1499	Health Promotion and Behavioral Sciences
1600 – 1999	Biostatistics and Data Science
2100 – 2499	Environmental and Occupational Health Sciences
2500 – 2999	Epidemiology
3000 – 3999	Management, Policy, and Community Health
5000 – 9999	Interdepartmental
Grading Type	**Grading Component**
L	Letter-graded. Courses without an 'L' designation have a pass/fail grading component.

MASTER OF PUBLIC HEALTH (MPH)

The Master of Public Health (MPH) degree, a minimum 45 semester credit hours, is the fundamental professional degree, required by many supervisory and managerial positions in public health and recommended for others.

Degree Requirements

- Satisfactory completion of a prescribed course of study of at least one (1) academic year and a minimum of 45 semester credit hours. Only three (3) credit hours of practicum and three (3) credit hours of an integrative learning experience count toward the minimum of 45 semester credit hours. Therefore, at least 39 credit hours of didactic courses other than practicum or an integrative learning experience must be successfully completed;
- Satisfactory completion of **PH 101** *Foundations in Public Health* (online, not-for-credit course);
- Satisfactory completion of a planned, supervised, and evaluated practicum; and
- Satisfactory completion of an integrative learning experience that demonstrates a substantial knowledge of public health.

Prescribed Course of Study
Major requirements are listed within the departmental sections of this catalog. Degree requirements may be altered in successive catalogs. Students are bound by the requirements of the catalog in force at the time of their admission or readmission.

Core Requirements for MPH Students
The following courses satisfy the MPH core public health requirement: **PHM 1690** *Introduction to Biostatistics in Public Health* & **PHM 2612** *Epidemiology I* & **PHM 2110** *Public Health Ecology & the Human Environment* & **PHM 1110** *Health Promotion and Behavioral Sciences in Public Health* & **PHM 3715** *Management and Policy Concepts in Public Health* & **PHM 5015L** *Introduction to Qualitative Research in Public Health.*

Practicum
The practicum, or applied practice experience, is an application of learning to a "real world" setting and is a CEPH requirement for completion of the MPH degree. All practicums consist of an organized internship at an extramural agency or organization engaged in work related to public health. Alternatively, the practicum may be done intramurally if the project interacts with practice agencies.

Integrative Learning Experience (ILE)
The ILE is a CEPH requirement for completion of the MPH degree. It requires the synthesis and integration of knowledge and skills acquired in the degree program and their application to some aspect of professional practice. An ILE can be completed through one of the following avenues: completion of the department's Capstone course; completion of an original research thesis; or completion of an independent project. In all ILE options, students investigate public health issues and generate a high-quality written product. If students chose to complete an original research thesis, they will be required to follow all standard research thesis procedures.

Customized MPH
The Master of Public Health Customized plan offers student the flexibility to complete interdisciplinary coursework relevant to their academic and professional interests. Students eligible for the customized MPH program include: students admitted to any dual degree program and students located at any SPH campus. Students will work with their advisor to select a minimum of five (5) competencies to be met in an advanced public health area. These competencies are in addition to the MPH core competencies. For a sample of the course of study, see the Customized MPH degree planner.

MASTER OF SCIENCE (MS)

The Master of Science (MS) degree, a minimum of 36 semester credit hours, signifies academic accomplishment in a public health discipline and is available to those who plan careers in academia and research.

Degree Requirements

- Satisfactory completion of a prescribed course of study of at least one (1) academic year and a minimum of at least 36 semester credit hours. A maximum of six (6) credit hours of thesis count toward the minimum of 36 credit hours. If the student chooses to elect a practicum, no more than three (3) credit hours of practicum and three (3) credit hours of thesis count toward the minimum of 36 credit hours. Therefore, at least 30 credit hours of didactic courses other than practicum and/or thesis must be successfully completed;
- Satisfactory completion of **PH 101** *Foundations in Public Health* (online, not-for-credit course);
- Satisfactory completion of one epidemiology course, if one is not already covered in the major area;
- Satisfactory completion of a research thesis; and
- Satisfactory delivery of an oral presentation of their thesis defense. All completed theses will be made available to the general public.

Prescribed Course of Study
Major requirements are listed within the departmental sections of this catalog. Degree requirements may be altered in successive catalogs. Students are bound by the requirements of the catalog in force at the time of their admission or readmission.

Practicum
The practicum, or applied practice experience, is an application of learning to a "real world" setting. All practicums consist of an organized internship at an extramural agency or organization engaged in work related to public health. Alternatively, the practicum may be done intramurally if the project interacts with practice agencies. Although not a requirement, MS students are encouraged to include a practicum in their degree plan.

Academic Thesis
Students are required to complete a research thesis deemed by the faculty to be of excellent quality and demonstrate an appropriate depth of knowledge in the field of study. If approved by the student's advisory committee, a student may elect to include an article of publishable quality consistent with the standards of a peer-reviewed journal. The article is a part of the final submission to the Office of Research and contains all supporting elements of an acceptable research thesis. More information about a student's advisory committee can be found in the Academic Policies section.

DOCTOR OF PUBLIC HEALTH (DrPH)

The Doctor of Public Health (DrPH) degree, a minimum of 54 semester credit hours, signifies distinguished scholarly accomplishment and is available to those who plan careers in advanced professional practice, academia, or community-based research.

Degree Requirements
- Satisfactory completion of a prescribed course of study of at least one (1) academic year and a minimum of at least 54 semester credit hours. Only three (3) credit hours of practicum and six (6) credit hours of dissertation count toward the minimum of 54 credit hours. Therefore, at least 45 credit hours of didactic courses other than practicum or dissertation must be successfully completed.
- Satisfactory completion of **PH 101** *Foundations in Public Health* (online, not-for-credit course);
- Satisfactory completion of a minor area of study;
- Satisfactory completion of one epidemiology course, if one is not already covered in the major, minor, or breadth areas;
- Satisfactory completion of a planned, supervised, and evaluated practicum;
- Satisfactory performance on a preliminary examination as described by the degree program;
- Satisfactory defense of the dissertation proposal and completion of an original research dissertation.

Prescribed Course of Study
Major requirements are listed within the departmental sections of this catalog. Degree requirements may be altered in successive catalogs. Students are bound by the requirements of the catalog in force at the time of their admission or readmission.

Minor and Breadth
Students in the DrPH program are required to complete a minor and a breadth area of study. Minor requirements are listed within the departmental sections of this catalog. Students should consult with their advisor when choosing a minor to align with their academic goals. DrPH programs have a pre-designed breadth already built into the degree requirements and students are not required to complete an additional breadth. For more information about the minor and breadth requirement for DrPH students, see the Academic Polices section.

Preliminary Exam
The preliminary examination will be taken after the courses prescribed by the degree program have been successfully completed. If a student is unable to successfully complete (i.e., demonstrate competence in) the preliminary examination after two attempts, the student will be dismissed from the DrPH program. That student may be provided an opportunity to complete the MPH degree program (if the student does not already possess a MPH degree), but the opportunity is not automatic, and acceptance into the MPH program is decided collectively by departmental faculty. For more information, see the Academic Policies section.

Practicum
The practicum, or applied practice experience, is an application of learning to a "real world" setting and is a CEPH requirement for completion of the DrPH degree. All practicums consist of an organized internship at an extramural agency or organization engaged in work related to public health. Alternatively, the practicum may be done intramurally if the project interacts with practice agencies. The DrPH practicum ensures that students have significant advanced-level practice experiences collaborating with practitioners, allowing opportunities to develop leadership competencies and contribute to the field.

Dissertation
Students are required to complete an original research dissertation that makes a substantial contribution to knowledge in public health. This requirement will be fulfilled when an oral defense of the dissertation research proposal and the final dissertation have been successfully completed, the document has been approved and signed by all members of the dissertation committee, and a copy has been filed in the Dean's Office.

DOCTOR OF PHILOSOPHY (PHD)

The Doctor of Philosophy (PhD) degree, a minimum of 48 semester credit hours, in a public health discipline represents outstanding scholarly achievement and signifies a capacity for independent study.*

Degree Requirements
- For students with a master's degree, satisfactory completion of a prescribed course of study of at least one (1) academic year and a minimum of at least 48 semester credit hours. A maximum of six (6) semester credit hours of dissertation count toward the minimum 48 credit hours. If the student chooses to elect a practicum, no more than three (3) credit hours of practicum and three (3) credit hours of dissertation count toward the minimum of 48 credit hours. Therefore, at least 42 credit hours of didactic courses other than practicum or dissertation must be successfully completed.
  *For students with a bachelor's degree admitted as a direct-admit, satisfactory completion of a prescribed course of study of at least one (1) academic year and a minimum of at least 72 semester credit hours is required.
- Satisfactory completion of **PH 101** *Foundations in Public Health* (online, not-for-credit course);
- Satisfactory completion of two minor areas of study or one minor area of study and one breadth area;
- Satisfactory completion of one epidemiology course, if one is not already covered in the major, minor, or breadth areas;
- Satisfactory performance on a preliminary examination as described by the degree program;
- Satisfactory defense of the dissertation proposal and completion of an original research dissertation.

Prescribed Course of Study
Major requirements are listed within the departmental sections of this catalog. Degree requirements may be altered in successive catalogs. Students are bound by the requirements of the catalog in force at the time of their admission or readmission.

Minor and Breadth
Students in the PhD program are required to complete either two minors or one minor and one breadth area of study. Minor requirements are listed within the departmental sections of this catalog. Students should consult with their advisor when choosing a minor and/or breadth to align with their academic goals. For more information about the minor and breadth requirement for PhD students, see the Academic Polices section.

Preliminary Exam
The preliminary examination will be taken after the courses prescribed by the degree program have been successfully completed. If a student is unable to successfully complete (i.e., demonstrate competence in) the preliminary examination after two attempts, the student will be dismissed from the PhD program. For students with a bachelor's degree, the opportunity to complete a MS degree program is not automatic, and acceptance into the MS program is decided by departmental faculty. For more information, see the Academic Policies section.

Practicum
The practicum, or applied practice experience, is an application of learning to a "real world" setting. All practicums consist of an organized internship at an extramural agency or organization engaged in work related to public health. Alternatively, a practicum may be done intramurally if the project interacts with practice agencies. Although not a requirement, PhD students are encouraged to include a practicum in their degree plan.

Dissertation
Students are required to complete an original research dissertation that makes a substantial contribution to knowledge in public health. This requirement will be fulfilled when an oral defense of the dissertation research proposal and the final dissertation have been successfully completed, the document has been approved and signed by all members of the dissertation committee, and a copy has been filed in the Dean's Office.

Degree programs that are currently accepting applications for admission are indicated with a check (✓) for each location respectively. Each program has its own course of study located within the departmental sections in this catalog. To skip to a specific course of study, select one of the programs below.

	Houston	Austin	Brownsville	Dallas	El Paso	San Antonio	100% Online
Master of Public Health - MPH							
Community Health Practice	✓						
Customized	✓	✓	✓	✓	✓	✓	
Environmental Health	✓				✓	✓	
Epidemiology	✓	✓	✓	✓		✓	✓
Health Promotion/Health Education	✓	✓	✓	✓	✓	✓	✓
Healthcare Management	✓				✓		✓
Health Services Organizations	✓						
Master of Science - MS							
Biostatistics	✓						
Doctor of Public Health - DrPH							
Community Health Practice	✓					✓	
Health Promotion/Health Education	✓	✓	✓	✓	✓		
Doctor of Philosophy - PhD							
Behavioral Sciences and Health Promotion	✓	✓		✓			
Biostatistics	✓						
Environmental Science - Total Worker Health	✓				✓	✓	
Environmental Science - Environmental Disease Prevention	✓				✓	✓	
Epidemiology	✓	✓	✓	✓		✓	
Health Economics and Health Services Research	✓						
Healthcare Management and Health Policy	✓						

DUAL DEGREE PROGRAMS

Dual and pathway degree programs at UTHealth Houston School of Public Health are designed so the curricula of both degrees are integrated to the greatest extent possible. Through these programs, students are able to complete two degrees in a shorter time period than pursuing both separately as some specified courses can count toward both degrees. Students interested in a dual degree program must apply and receive admission to each institution, respectively, according to the application procedures and meet the requirements of each institution. For more information, see the Admissions Process section.

The maximum number of transfer (i.e. shared) credits that can apply to a degree program at UTHealth Houston School of Public Health, as part of a dual degree program, is outlined in *Policy 308 Transfer of Credit Hours*. Students should contact the program coordinator for the dual degree program for further information. More information about the following dual and pathway degree programs can be found on the Dual Degree Programs website.

	Houston	Austin	Brownsville	Dallas	El Paso	San Antonio
DDS/MPH Program						
UTHealth Houston School of Dentistry	✓					
DMD/MPH Program						
Texas Tech University Health Science Center El Paso School of Dental Medicine					✓	
JD/MPH Program						
University of Houston Law Center	✓					
MBA/MPH Program						
The University of Texas at El Paso Woody L. Hunt College of Business					✓	
The University of Texas Permian Basin College of Business	✓	✓	✓	✓	✓	✓
The University of Texas at San Antonio College of Business						✓
MD/MPH Programs						
Baylor College of Medicine	✓					
McGovern Medical School at UTHealth Houston	✓					
Texas Tech University Health Science Center El Paso School of Medicine					✓	
The University of Puerto Rico School of Medicine	✓					
The University of Texas at Austin Dell Medical School		✓				
The University of Texas Rio Grande Valley School of Medicine			✓			
University of Houston College of Medicine	✓					
UT Health San Antonio Long School of Medicine						✓
UT Southwestern Medical School				✓		
MGPS/MPH Program						
The University of Texas at Austin LJB School of Public Affairs		✓				
MPAff/MPH Program						
The University of Texas at Austin LBJ School of Public Affairs		✓				
MS/MPH Program						
UTHealth Houston School of Biomedical Informatics	✓	✓	✓	✓	✓	✓
MSSW/MPH Program						
The University of Texas at Austin School of Social Work		✓				
MSW/MPH Program						
The University of Houston School of Social Sciences	✓					
Pharm.D./MPH Program						
The University of Texas at Austin College of Pharmacy		✓				
PhD/MPH Program						
UTHealth Houston School of Biomedical Informatics	✓					

Graduate Certificates

A complete list of certificates is listed in the chart below. More information and course requirements can be found on the mySPH Graduate Certificates website at https://uthealthsph.force.com/UTHealthCommunity/s/certificate-planners.

Graduate certificates for non-degree seeking students provides the opportunity to take courses for credit at UTHealth Houston School of Public Health without pursuing a formal degree. Students are required to complete the application procedure as a non-degree student. For more information, see the Admissions section. Certificate courses may be applied toward the required credit hours of a degree program in the form of transfer credits. However, students interested in taking more than the maximum transfer credit hours are strongly advised to apply for admission to a degree program. For more information about transfer credits, see the Academic Policies section.

Degree-seeking students who are currently pursuing a graduate degree should formally elect their certificate through the UTHealth Houston School of Public Health Office of Academic Affairs and Student Services. All graduate certificates are available to all students at all campuses unless otherwise noted. Students should consult their advisors for course availability at their campus.

Certificate	Degree-Seeking Certificates	Non-Degree Seeking Certificates
Advanced Data Science	✓	✓
Advanced Planning and Evaluation for Health Promotion Programs	✓	✓
Advanced Quantitative Methods in Behavioral Sciences	✓	✓
Applied Biostatistics of Public Health	✓	✓
Clinical Nutrition and Public Health *(Houston only)*	✓	✓
Culinary Nutrition and Public Health *(Houston only)*	✓	✓
Data Science*	✓	✓
Genomics & Bioinformatics*	✓	✓
Global Health	✓	✓
Health Disparities	✓	✓
Health Promotion Program Planning and Evaluation	✓	✓
Healthcare Administration	✓	✓
Introduction to Quantitative Methods in Behavioral Sciences	✓	✓
Leadership Theory and Practice	✓	✓
Maternal & Child Health	✓	✓
Nutrition and Public Health	✓	
Physical Activity & Health	✓	
Public Health*		✓
Public Health Informatics		✓
Public Health Law Research and Policy Surveillance*	✓	✓

This graduate certificate program is also offered fully online.

Advanced Data Science Certificate (15 semester credit hours)

This certificate is designed for both students and working professionals who intend to elevate their knowledge and skill-set regarding data science processes and their application. This certificate is an extension of the established Data Science Certificate and consists of learning modules in data science crafted to meet the needs of students, employers, and community partners. Topics include data mining, data science computing, and programming in Python and R. For more information, see the Advanced Data Science Certificate planner.

Advanced Planning and Evaluation for Health Promotion Programs (12 semester credit hours)

This certificate builds on the *Health Promotion Program Planning and Evaluation* certificate (see below) and is intended for professionals who are working or who plan to work in public health departments, government or non-

profit organizations to obtain advanced skills in health promotion program planning and evaluation to improve health and eliminate health disparities. These courses provide advanced skills to develop and evaluate theory- and evidence-based multilevel health promotion programs, select appropriate research designs, and apply statistical analyses to translate research to practice for evidence-based decision-making.

For more information, see the Advanced Planning and Evaluation for Health Promotion Programs certificate planner.

Advanced Quantitative Methods for Behavioral Sciences (15 semester credit hours)

This certificate builds on the *Introduction to Quantitative Methods for Behavioral Sciences* certificate and provides advanced training in research design and quantitative methods relevant to practitioners and researchers working in the fields of health promotion, social and behavioral sciences and preventative medicine. The course offerings in this certificate are designed to provide education in advanced design and analysis methods. This certificate will be suitable for students who have prior experience or training through multivariate linear and logistic regression modeling.

For more information, see the Advanced Quantitative Methods for Behavioral Sciences certificate planner.

Applied Biostatistics in Public Health (12 semester credit hours)

This certificate is designed to provide students or professionals basic quantitative and analytic skills for working in public health or health-care related industries. The goal is to train public health professionals the basic analysis skills and critical thinking for performing analysis as part of public health research.

For more information, see the Applied Biostatistics in Public Health certificate planner.

Clinical Nutrition and Public Health Certificate (13 semester credit hours)

This certificate is designed to prepare those in the public health and health care workforce to understand the role of nutrition in disease prevention and health promotion, nutrition assessment, nutritional epidemiologic methods, nutritional physiology, nutritional health policy, and culinary medicine.

For more information, see the Clinical Nutrition and Public Health certificate planner.

Culinary Nutrition and Public Health Certificate (13 semester credit hours)

This certificate is designed to prepare those in the public health and health care workforce to understand the role of nutrition in disease prevention and health promotion, nutrition assessment, nutritional physiology, nutritional health policy, and culinary medicine.

For more information, see the Culinary Nutrition and Public Health certificate planner.

Data Science Certificate (9 semester credit hours for degree-seeking students; 13 semester credit hours for non-degree-seeking students)

This certificate is intended for professionals working in health care or industries related to public health research and biostatistics, and consists of coursework in data science, data analytics and predictions, analytic methods, and data management.

For more information, see the Data Science certificate planner.

Genomics and Bioinformatics Certificate (12 semester credit hours)

This certificate is intended for professionals in academic, clinical, and research settings who are now or soon to be faced with genomic and related data. The goal is to enable a generation of investigators and academicians capable of integrating genomic and related high-dimensional data seamlessly into population and personalized health.

For more information, see the Genomics and Bioinformatics certificate planner.

Global Health Certificate (12 semester credit hours, minimum)

This certificate is intended for students interested in exploring how globalization is affecting the determinants of health, the health status of the population, and the capacity of nation-states to deal with the determinants of health and disease. The goal is to prepare students for positions that involve public health decision-making and research in a changing world.

For more information, see the Global Health certificate planner.

Health Disparities Certificate (12 semester credit hours)

This certificate provides an orientation for individuals who are working in public health or health care and seeking to focus their work to the recognition, description and elimination of health disparities that have been defined as differences in "the overall rate of disease incidence, prevalence, morbidity, mortality or survival rates."
For more information, see the Health Disparities certificate planner.

Health Promotion Program Planning and Evaluation Certificate (15 semester credit hours)
This certificate is designed to prepare those in the public health workforce to identify behavioral and environmental determinants of health that are modifiable, and to plan and evaluate effective health promotion programs and policies to promote healthy lifestyles and prevent disease in diverse populations and settings.
For more information, see the Health Promotion Program Planning and Evaluation certificate planner.

Healthcare Administration Certificate (15 semester credit hours)
This certificate is intended for professionals working in healthcare management and students enrolled in post-baccalaureate degree programs in complementary graduate level disciplines such as business, health care, public policy, public administration, or health sciences. This certificate is designed to meet the needs of students, employers, and community partners.
For more information, see the Healthcare Administration certificate planner.

Introduction to Quantitative Methods for Behavioral Sciences (13 semester credit hours)
This certificate provides introductory training in research design and quantitative methods relevant to practitioners and researchers working in the fields of health promotion, social and behavioral sciences and preventative medicine. The course offerings in this certificate are designed to provide an introduction to basic design and analysis concepts. This will be suitable for certificate students entering with little or no prior quantitative methods experience.
For more information, see the Introduction to Quantitative Methods for Behavioral Sciences certificate planner.

Leadership Theory and Practice (12 semester credit hours)
This certificate provides students with the theories behind leadership excellence as well as discussion on current leadership issues. It helps train present and future public health leaders in personal leadership qualities and skills needed for effective leadership including systems thinking; team work, cultural humility, strategic planning, and other leadership skills.
For more information, see the Leadership Theory and Practice certificate planner.

Maternal & Child Health Certificate (12 semester credit hours for degree-seeking students; 15 semester credit hours for non-degree-seeking students)
This certificate is designed to equip students with skills to professionally promote and enhance the health of women, children, and their communities on a local, state, federal, and international level, while working as advocates in health care organizations, academic institutions, and other public and private organizations. An in-depth diverse curriculum provides skills development in reproductive, perinatal, child, and adolescent health.
For more information, see the Maternal & Child Health certificate planner.

Nutrition and Public Health Certificate (9 semester credit hours)
This certificate provides opportunities and training for students to focus on dietary assessment methodology, nutritional epidemiology, food policy and systems, behavioral nutrition interventions, and medical nutrition therapy. The goal is to prepare students to understand the role of nutrition in disease prevention and health promotion, dietary assessment, nutritional epidemiologic methods, nutritional physiology, and food and nutrition policy.
For more information, see the Nutrition and Public Health certificate planner.

Physical Activity & Public Health Certificate (9 semester credit hours)
This certificate provides opportunities and training for students to focus on physical activity assessment, epidemiologic methods, intervention planning, physiologic mechanisms and health outcomes, and policy development. This certificate also focuses on the possible causes and consequences of physical inactivity on health in individuals and populations and provides hands-on opportunities for skills development in the areas of measurement, intervention, and environmental and policy change.
For more information, see the Physical Activity & Public Health certificate planner.

Public Health Law Research and Policy Surveillance (15 semester credit hours)

This certificate program is designed to train governmental, health care, and public health professionals to engage in public health policy research, analysis and practice as policy researchers and legal epidemiologists, with skills that bridge public health law.
For more information, see the Public Health Law Research and Policy Surveillance certificate planner.

Public Health Certificate (16 semester credit hours)
This certificate is intended for public health practitioners and individuals who are interested in increasing their basic public health knowledge or are considering a graduate degree in the field. These courses cover the core content of the disciplines that are basic to public health.
For more information, see the Public Health certificate planner.

Public Health Informatics (16 semester credit hours)
This certificate is a joint program between UTHealth Houston School of Biomedical Informatics and UTHealth Houston School of Public Health and was created to address the growing emphasis of public health informatics at the national level and the increased market demand.
For more information, see the Public Health Informatics certificate planner.

Accelerated Master's Programs (4+1 Program)
Undergraduate students matriculating at a partnering school or college external to UTHealth Houston School of Public Health will have the opportunity to earn both a Bachelor's degree and a Master of Public Health through UTHealth Houston School of Public Health over the course of approximately five (5) years. These Accelerated Master's programs integrate graduate certificate coursework into the student's undergraduate program during their final year of undergraduate study. Students apply as non-degree seeking students for enrollment in the Public Health Certificate during their undergraduate program. Once students graduate with their Bachelor's degree, they will apply as degree-seeking MPH students and have their certificate courses applied toward their MPH degree. These educational agreements are listed as Accelerated Master's Programs. UTHealth Houston School of Public Health holds the following program agreements with the following educational entities. More information can be found on the Graduate Certificates website.

	Houston	Austin	Brownsville	Dallas	El Paso	San Antonio
Accelerated Master's Programs (4+1 Program)						
Public Health Certificate/Austin College				✓		
Public Health Certificate/Rice University	✓					
Public Health Certificate/Schreiner University						✓
Public Health Certificate/St. Mary's University						✓
Public Health Certificate/The University of Texas at Austin		✓				
Public Health Certificate/The University of Texas at San Antonio						✓
Public Health Certificate/University of Houston	✓					
Public Health Certificate/University of Texas Rio Grande Valley			✓			
Public Health Certificate/UTHealth Houston School of Dentistry, Dental Hygiene Program	✓					

Current, degree-seeking students are eligible to participate in the following special programs to enhance their educational experience.

UT System Archer Center, Graduate Archer Fellowship Program

This program provides students with an opportunity to learn about the federal government and public policy. Fellows spend 12 weeks interning in a Washington, D.C. organization of their choosing based on their own professional and academic goals and interests. UTHealth School of Public Health students in this program will earn 9 credit hours of coursework by enrolling in **PH 5098** *ST: Federal Policy Making* & **PH 5098** *ST: Archer Center Research* & **PH 9997** *Practicum*. Archer Center Program Fee: $3,900.

Dietetic Internship

This program provides students with an opportunity to complete an MPH with an emphasis in Health Promotion/Health Education while simultaneously completing the requirements of an accredited Dietetic Internship program. Graduates of the Dietetic Internship are prepared to practice as entry-level dietitians, are eligible to take the Registration Examination for Dieticians and are qualified to apply for dietetic licensure through the Texas Department of State Health Services. The Dietetic Internship Program is administered through the Michael & Susan Dell Center for Healthy Living. For a course of study, see the MPH in Health Promotion/Health Education, Dietetic Internship section. This is a two-year program with a program fee of $5,000. For more information see the School of Public Health Dietetic Internship Program website at https://sph.uth.edu/research/centers/dell/dietetic-internship-program/index.htm.

Industrial Hygiene

Industrial hygiene is the science devoted to anticipating, recognizing, evaluating, and controlling environmental factors posing risk to workers and the community, which arise from the workplace. Applicants for the industrial hygiene curriculum must specifically complete organic chemistry, and physics is strongly preferred. The master's-level industrial hygiene curriculum for the MPH is accredited by the Applied and Natural Science Accreditation Commission of ABET, https://www.abet.org/. A high level of faculty/student interaction is emphasized and students typically gain practical experience through summer internships, which offer a wealth of opportunities for training in industrial settings, healthcare, petroleum and petrochemicals, agriculture, and public and private business and government sectors. Industrial hygiene is a discipline within occupational health and safety (OHS), which is a professionally exciting and rewarding field of public health that includes all other aspects of public health such as epidemiology, health promotion, management, global health and wellness, and other disciplines. Being an OHS practitioner helps to save lives of working people and promotes a grounded quality of life for their families and communities. The interdisciplinary curriculum is based on a public health model for practice. Graduates are prepared to participate in a multi-disciplinary approach to planning, implementing, managing, and evaluating program and services for worker health and safety.

Course of Study

Students who elect to complete the optional Industrial Hygiene curriculum (17 credit hours) will complete a minimum of 54 credit hours for their MPH in Environmental Health program.

- Students in the Industrial Hygiene program will complete the 17 credit hours of coursework: **PHM 2155** *Environmental Sampling & Analysis* (Lab fee: $10.00), **PH 2241L** *Fundamentals of Occupational Safety*, **PH 2246L** *Principles of Occupational Ergonomics*, **PH 2250** *Occupational Health Controls*, and **PH 2260** *Occupational Health Field Trips*, in lieu of electives.
- Students must select **PH 2245** *Fundamentals for Industrial Hygiene* (4 credits) from the three options listed under the major courses selections in the MPH course of student.

Maternal and Child Health Trainee Fellowship Program

The Maternal and Child Health Trainee Fellowship Program is open to students enrolled in the Maternal and Child Health Certificate who are interested in a year-long intensive training experience in maternal and child health. The MCH Trainee Fellowship program will include a Conductive Leadership Curriculum as well as experiential placements

working on maternal and child health-related projects and programs with local and state agencies. For more information, see the [Maternal and Child Health Fellowship](#) website.

Residency Program in Occupational and Environmental Medicine
This two-year track trains practicing physicians to be qualified for careers in occupational and environmental medicine. This program includes one year of rigorous academic study and one year of experiential rotations to fulfill the requirements of the MPH. Students who successfully complete the coursework and rotations are eligible to apply for board certification in occupational medicine by the American Board of Preventive Medicine (ABPM). For more information, see the [Occupational and Environmental Medicine](#) website.

Course of Study
Students who elect to complete the optional Occupational Medicine Residency curriculum will complete a minimum of 50 credit hours and are required to complete the listed 13 credit hours in addition to their [MPH in Environmental Health](#) required coursework.

- Occupational Medicine Residents will complete the following 13 credit hours of coursework: **PH 2255** *Clinical Occupational Medicine*, **PH 2260** Occupational Health Field Trips, **PH 2265** *Occupational Medicine Practice* (taken twice), **PH 2270L** *Total Worker Health and Worker Well-being*, in lieu of electives.
- Students must select **PH 2245** *Fundamentals of Industrial Hygiene* (4 credits) from the three options listed under the major courses selections in the MPH course of study.

DEPARTMENT OF BIOSTATISTICS AND DATA SCIENCE

Biostatistics is a discipline encompassing the study and development of statistical, mathematical, and computer methods applied to the biological and health sciences.

Minor in Biostatistics

A minor in biostatistics consists of at least nine (9) SCH of the following required courses:

- Masters students: **PHM 1690L** *Introduction to Biostatistics in Public Health* & **PH 1700L** *Intermediate Biostatistics* & at least one Biostatistics elective above PH 1700L
- Doctoral students: **PHM 1690L** *Introduction to Biostatistics in Public Health* & **PH 1700L** *Intermediate Biostatistics* & at least two Biostatistics electives above PH 1700L (Note: PHM 1690L *Introduction to Biostatistics in Public Health* is a prerequisite to PH 1700L but may be waived depending on the student's background.)

PH 1820L *Applied Linear Regression* is strongly recommended as an elective for all students.

MS in Biostatistics

The MS Biostatistics degree program is a minimum 36 semester credit hours, and provides training in research design, basic statistical theory, data analysis, computer applications, and statistical consultation. Graduates of the program are prepared to assume statistical posts in government, private health agencies, or in health research programs. The program emphasizes fundamental statistical theory and methods and provides the basis for doctoral level biostatistical studies.

Special Entrance Requirements

Applicants to the MS program should hold an undergraduate degree that emphasizes the development of strong quantitative skills through multivariate calculus and at least one semester of linear algebra. Examples are degree programs in mathematical, physical, biological, or social sciences. Advanced mathematical training and knowledge of computer programming are highly desirable. For more information, see the Admissions section.

Course of Study

The following courses are required for the MS in Biostatistics:

- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course) & **PHM 1690L** *Introduction to Biostatistics in Public Health*
    *Leveling courses do not count toward the total number of credits for the degree program.
- Major courses: **PH 1700L** *Intermediate Biostatistics* & **PH 1820L** *Applied Linear Regression* & **PH 1821L** *Applied Multivariate Analysis for Biostatistics* & **PH 1830L** *Categorical Data Analysis* & **PH 1831L** *Survival Analysis* & **PH 1910L** *Probability and Distribution Theory* & **PH 1911L** *Statistical Inference*
- Electives: Students are required to complete 12 credit hours of elective coursework. Students must complete a 3 credit hour epidemiology course of their choice (2500-2999). Students are encouraged to complete elective coursework in biostatistics (1600-1999; not already on the degree planner). Students should consult with their advisor when selecting elective courses. Students may also elect to complete a minor outside of their department. Students who opt to complete a minor should consult with their advisor and the minor's department for requirements.
- Thesis: **PHM 9998** *Culminating Experience/Thesis Research*

For a sample course of study, see the MS in Biostatistics degree planner.

PhD in Biostatistics

The PhD in Biostatistics degree program is a minimum 48 semester credit hours, or a minimum of 72 semester credit hours for direct admission, and emphasizes advanced statistical theory and application, statistical consulting and independent research and prepares students to be independent investigators in the development and application of biostatistical analyses to problems of human health and disease. Graduates of the program go on to assume senior statistical posts in governmental or private health research agencies, or pursue careers in teaching and research.

Special Entrance Requirements

Applicants to the PhD program should have mathematical training beyond the introductory calculus level, including advanced calculus and linear algebra. Preference will be given to applicants with coursework in more advanced mathematics as well as statistics. They should hold degrees in areas that emphasize the development of strong quantitative skills, such as, degrees in mathematical, biomedical, physical, or social sciences. For more information, see the [Admissions](#) section.

Course of Study
The following courses are required for the PhD in Biostatistics:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for credit course)
- Leveling Courses: **PH 1700L** *Intermediate Biostatistics*; **PH 1820L** *Applied Linear Regression* *; **PH 1821L** *Applied Multivariate Analysis for Biostatistics* *; **PH 1830L** *Categorical Data Analysis* *; **PH 1910L** *Probability and Distribution Theory* *
    Academic credits from leveling courses do not count towards the total required number of credits for the degree program.
- Major Courses: **PH 1831L** *Survival Analysis* *; **PH 1911L** *Statistical Inference* *; **PHD 1915L** *Linear Models I* *; **PH 1916L** *Generalized Linear Models*; **PHD 1930L** *Statistical Computing*; **PHD 1950L** *Stochastic Processes for Biostatisticians I* *; **PH 1988** *Biostatistics Seminar*
- One breadth and one minor or two minors: student are required to elect a minor outside of their department. Students should consult with their advisor and the minor's department for requirements. Students may choose to complete a breadth or second minor. Students who do not elect an epidemiology minor must complete a three (3) credit hour epidemiology course as part of the breadth (2500-2999). Students who do complete an epidemiology minor must complete a three (3) credit hours course outside of both epidemiology and biostatistics for the breadth. Students who choose to complete a breadth should consult with their advisor to determine which courses are most appropriate for their academic and professional goals. Students who choose to complete a second minor should consult with their advisor and the minor's department for requirements.
- Biostatistics Electives: Students are required to complete a minimum of 5 credit hours of electives from any biostatistics course above the 1700L level that is not already required on the degree planner. Students should consult with their advisor when selecting elective courses coursework appropriate for the student's research and career goals.
- **PHD 1995** *Research Practice Experience for Biostatistics Students*
- **PHD 9999** *Dissertation Research*

*Students must successfully complete each course indicated with an asterisk (*) prior to sitting for the preliminary exam. For a sample course of study, see the [PhD in Biostatistics degree planner](#).

PhD in Biostatistics, Direct Admission
The Department of Biostatistics and Data Science may admit students holding a BA or BS degree (or foreign equivalent) directly into the PhD program. A student requesting direct admission to the PhD program is expected to have a bachelor's degree that emphasizes the development of strong quantitative skills, such as degrees in mathematical, biomedical, or physical sciences. The successful applicant will have mastered multivariable calculus and linear algebra. Applicants with degrees that are not in one of these areas who have the requisite statistical training may be admitted to the PhD program. All admissions require approval of faculty.

Direct Admit Course of Study
The following courses are required for the direct admit PhD in Biostatistics:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for credit course)
- Masters Equivalent Courses: **PH 1700L** *Intermediate Biostatistics*; **PH 1820L** *Applied Linear Regression* *; **PH 1821L** *Applied Multivariate Analysis for Biostatistics* *; **PH 1830L** *Categorical Data Analysis* *; **PH 1910L** *Probability and Distribution Theory* *
- Major Courses: **PH 1831L** *Survival Analysis* *; **PH 1911L** *Statistical Inference* *; **PHD 1915L** *Linear Models I* *; **PH 1916L** *Generalized Linear Models*; **PHD 1930L** *Statistical Computing*; **PHD 1950L** *Stochastic Processes for Biostatisticians I* *; **PH 1988** *Biostatistics Seminar*
- One breadth and one minor or two minors: student are required to elect a minor outside of their department. Students should consult with their advisor and the minor's department for requirements.

Students may choose to complete a breadth or second minor. Students who do not elect an epidemiology minor must complete a three (3) credit hour epidemiology course as part of the breadth (2500-2999). Students who do complete an epidemiology minor must complete a three (3) credit hours course outside of both epidemiology and biostatistics for the breadth. Students who choose to complete a breadth should consult with their advisor to determine which courses are most appropriate for their academic and professional goals. Students who choose to complete a second minor should consult with their advisor and the minor's department for requirements.

- Biostatistics Electives: Students are required to complete a minimum of 14 credit hours of electives from any biostatistics course above the 1700L level that is not already required on the degree planner. Students should consult with their advisor when selecting elective courses coursework appropriate for the student's research and career goals.
- **PHD 1995** *Research Practice Experience for Biostatistics Students*
- **PHD 9999** *Dissertation Research*

*Students must successfully complete each course indicated with an asterisk (*) prior to sitting for the preliminary exam. For a sample course of study, see the direct admission PhD in Biostatistics degree planner.

Epidemiology, Human Genetics and Environmental Sciences (EHGES) includes a broad group of sciences. Epidemiology is one of the basic sciences of public health and plays a vital role in disease prevention through the study of determinants and patterns of disease in vulnerable populations. Human genetics research involves locating and characterizing genes underlying chronic diseases, such as coronary heart disease and diabetes. Environmental science research involves studying the air people breathe, the water people drink, and the environment where people live and work. The academic programs for EHGES are divided into two areas: Epidemiology and Environmental and Occupational Health Sciences (EOHS).

EPIDEMIOLOGY

Epidemiology is the study of patterns of disease and injury in human populations and the application of this study to the control of health problems.

Minor in Epidemiology
The department offers a minor course of study (nine (9) semester credit hours) for MS and doctoral students majoring in other public health disciplines. Courses required for the minor include:
- Masters students: **PHM 2612L** *Epidemiology I* & two Epidemiology electives
- Doctoral students: **PH 2615L** *Epidemiology II,* **PH 2710L** *Epidemiology III* & one Epidemiology elective

MPH in Epidemiology
The MPH in Epidemiology is a minimum of 45 semester credit hours designed to provide a breadth of achievement in the five core disciplines of public health, as well as additional knowledge and skills in epidemiology. The goal of this program is to prepare students to put epidemiologic concepts and methods into public health practice, conduct research studies in public health, and interpret scientific evidence relevant to public health.

Special Entrance Requirements
Applicants to the MPH program should hold a bachelor's degree in the biomedical or social sciences from a regionally accredited university or school. Experience in public health practice is also considered favorably. For more information, see the Admissions section.

Course of Study
The following courses are required for an MPH in Epidemiology:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L** & **PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PH 1700L** *Intermediate Biostatistics* & **PH 2615L** *Epidemiology II* & **PH 2710L** *Epidemiology III*
- Emphasis Area: Six (6) credit hours of selected epidemiology coursework (2500-2999) in Public Health Practice or Public Health Research. Students should consult with their advisor when selecting which track to complete.
    - Public Health Practice: Students who elect to complete an emphasis area in public health practice should work with their advisor when selecting coursework appropriate for their academic and professional goals.
    - Public Health Research: Students who elect to complete an emphasis area in public health research should work with their advisor when selecting coursework appropriate for their academic and professional goals. Students are strongly encouraged to enroll in **PH 2858** *Quantitative Analysis for Public Health Research and Practice*. Students who elect to complete public health research coursework are expected to complete a traditional academic thesis as their integrative learning experience.
- Electives: Six (6) credit hours of elective coursework
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHWM 2996** *Capstone for EPID Students* or **PHM 9998** Culminating Experience/*Thesis Research (for students completing an independent ILE or traditional academic thesis)*

For a sample course of study, see the [MPH in Epidemiology degree planner](#).

PhD in Epidemiology

The PhD in Epidemiology is a minimum of 48 semester credit hours and represents a mastery of epidemiologic concepts, theories and methodology; and a significant capacity for independent study. The doctoral program is research-intensive, and is designed for students who plan to go on to academic (university-based) or research careers in epidemiology and disease control.

Special Entrance Requirements

Applicants to the PhD program should hold an MS or MPH in Epidemiology from a regionally accredited university or college or have other accomplishments, which indicate readiness for doctoral study in epidemiology. GRE scores are required. See the 'Application Process & Deadline Dates' and 'Admissions Process' sections for more information. For more information, see the [Admissions](#) section.

Course of Study

The following courses are required for a PhD in Epidemiology:
- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for credit course); **PHM 1690L** *Introduction to Biostatistics in Public Health* & **PH 1700L** *Intermediate Biostatistics*; **PHM 2612L** *Epidemiology I*; **PH 2615L** *Epidemiology II* & **PH 2710L** *Epidemiology III*
  *Academic credits from leveling courses do not count towards the total required number of credits for the degree program.
- Major Courses: **PHD 2711L** *Epidemiology IV*;* **PHD 2712L** *Experimental Methods in Epidemiology*;* **PHD 2990** *Epidemiology Seminar;* **PHD 2720L** *Epidemiology Proposal Development;* and:
  - Three (3) credit hours of a selected required course*: **PH 1830L** *Categorical Data Analysis*; and/or **PH 1831L** *Survival Analysis*
- One breadth and one minor or two minors
- Elective courses: 11-14 credit hours. Students are required to complete a minimum of six (6) credit hours of elective coursework within the epidemiology department (2600-2999). One epidemiology elective* (2600-2999) is required prior to sitting for the epidemiology preliminary exam.
- **PHD 9999** *Dissertation Research*

*Students must successfully complete each course indicated with an asterisk (*) prior to sitting for the preliminary exam. For a sample course of study, see the [PhD in Epidemiology degree planner](#).

PhD in Epidemiology, Direct Admission

The PhD in Epidemiology (Direct Admission) is a minimum of 72 semester credit hours and represents a mastery of epidemiologic concepts, theories and methodology; and a significant capacity for independent study. The doctoral program is research-intensive, and is designed for students who plan to go on to academic (university-based) or research careers in epidemiology and disease control.

Special Entrance Requirements

The Department of Epidemiology may admit students holding a BA or BS degree (or foreign equivalent) directly into the PhD program. A student requesting direct admission to the PhD program is expected to have either a bachelor's degree that demonstrates the development of strong scientific and analytical skills, a professional doctoral degree in a medical field, or a doctoral degree in a field not directly related to medicine or public health that is coupled with evidence of adequate preparation in biological sciences and mathematics. In addition, evidence of academic achievement that includes completion of advanced courses in biological sciences, at least two semesters of college-level calculus (or the equivalent) and at least one course in statistics.

Direct Admit Course of Study

The following courses are required for a direct admit PhD in Epidemiology:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for credit course)
- Masters Equivalent Coursework: **PHM 1690L** *Introduction to Biostatistics in Public Health* & **PH 1700L** *Intermediate Biostatistics*; **PHM 2612L** *Epidemiology I*; **PH 2615L** *Epidemiology II* & **PH 2710L** *Epidemiology III*

- PhD Required Courses: **PHD 2711L** *Epidemiology IV*;* **PHD 2712L** *Experimental Methods in Epidemiology*;* **PHD 2990** *Epidemiology Seminar;* **PHD 2720L** *Epidemiology Proposal Development;* and:
  - Three (3) credit hours of a selected required course*: **PH 1830L** *Categorical Data Analysis*; and/or **PH 1831L** *Survival Analysis*
- One breadth and one minor or two minors
- Elective courses: 19-22 credit hours. Students are required to complete a minimum of nine (9) credit hours of elective coursework within the epidemiology department (2500-2999). One epidemiology elective* (2500-2999) is required prior to sitting for the epidemiology preliminary exam.
- **PHD 9999** *Dissertation Research*

*Students must successfully complete each course indicated with an asterisk (*) prior to sitting for the preliminary exam. For a sample course of study, see the direct admission PhD in Epidemiology degree planner.

ENVIRONMENTAL AND OCCUPATIONAL HEALTH SCIENCES

Environmental and Occupational Health Sciences (EOHS) is the field of study that deals with the (1) anticipation, identification, and characterization of potentially harmful physical, chemical, and biological agents in community and workplace environments; (2) identification and study of the relevant pathways of exposure; (3) assessment of the effects of such agents on the environment and human health; and (4) development of interventions to prevent or ameliorate problems associated with environmental or occupational contaminants.

Minor in Environmental Sciences
EOHS also offers a minor course of study (minimum nine (9) semester credit hours) for MS and doctoral students majoring in other public health disciplines. Courses required for the minor include:
- Masters students: **PHWM 2110L** *Public Health Ecology & the Human Environment & two EOHS electives (2100-24099) (PH 2175L is recommended)*
- Doctoral students: **PHD 2135L** *Risk Analysis: Principles and Practice &* [**PHWD 2106L** *Introduction to Doctoral Research Methods in Environmental and Occupational Health Sciences OR* **PHWD 2108L** *Applied Epidemiological Analysis OR* **PHWD 2760L** *Occupational Epidemiology] & an EOHS elective (2100-2499).* PHM courses do not count toward a doctoral minor.

MPH in Environmental Health
The MPH in Environmental Health is a minimum of 45 semester credit hours and provides a foundation in environmental and occupational health sciences, in addition to the skills needed to function as a practitioner in a variety of public health settings. Students are prepared to assume positions in public health practice in government or the private sector.

Special Entrance Requirements
Applicants to the MPH program should have successfully completed coursework in mathematics, chemistry, and biological sciences. Applicants typically hold a bachelor's or higher degree in the physical, chemical, or biological sciences; engineering; nursing; or medicine from a regionally accredited institution of higher education. Applicants with majors from other disciplines who satisfy the undergraduate course-work requirements will be considered. For more information, see the Admissions section.

Course of Study
The following courses are required for an MPH in Environmental Health:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L** & **PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PH 2175L** *Toxicology I: Principles of Toxicology;* **PH 2205L** *Health and Safety Program Management and Leadership;* **PHM 2135L** *Risk Analysis: Principles and Practice; & one of the courses from the selection below:*
  - **PHW 2150** *Air Environment*
  - **PHWM 2230L** *Water Environment*
  - **PH 2245** *Fundamentals of Industrial Hygiene*

- Electives: students should consult with their advisor when selecting elective courses. Students are required to complete at least three (3) credit hours of the eight (8) or nine (9) credit hours (based on selected required course) of EOHS coursework (2000-2499).
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHM 2496** *Capstone for EOHS Students* or **PHM 9998** Culminating Experience/*Thesis Research (for students completing an independent ILE or traditional academic thesis)*

The MPH in Environmental Health is associated with two separate special programs: Industrial Hygiene and the Occupational and Environmental Medicine Residency Program. For more information about these optional curriculums, see the Special Programs section. For a sample course of study, see the MPH in Environmental Health degree planner.

PhD in Environmental Sciences, Environmental Disease Prevention Track

The PhD in Environmental Sciences is a minimum of 48 semester credit hours and offers in-depth didactic and research training for students who want to focus their careers in academic, governmental, or other research institutions, and/or in high-level policy/regulatory positions. The **Environmental Disease Prevention Track** will provide students experience in identifying and measuring disease agents in various environments, and opportunities to develop ways to mitigate associated public health risks.

Special Entrance Requirements
Applicants to the PhD program should have a prior MS or equivalent degree in Environmental Health Sciences or a related field from an accredited institution of higher education. In addition, applicants are expected to have successfully completed coursework in calculus, organic chemistry, physics, and biological sciences. For more information, see the Admissions section.

Course of Study
The following courses are required for a PhD in Environmental Science, Environmental Disease Prevention Track:
- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course); **PH 1700L** *Intermediate Biostatistics*; **PHWM 2110L** *Public Health Ecology and the Human Environment*; **PH 2175L** *Toxicology I: Principles of Toxicology*; **PHM 2612L** *Epidemiology I*
  *Academic credits from leveling courses do not count towards the total required number of credits for the degree program.
- Major Courses: **PHD 2105L** *EOHS Doctoral Seminar* (taken twice) & **PHWD 2106L** *Introduction to Doctoral Research Methods in EOHS* & **PH 2245** *Fundamentals of Industrial Hygiene*
- Track-Specific Courses: **PHD 2135L** *Risk Analysis - Principles and Practice* & **PH 2177** *Toxicology II: Toxic Agents and the Environment* & **PH 2126** *Fundamentals and Applications of GIS* & **PHD 2155** *Environmental Sampling and Analysis* & one of the courses from the selections below:
  - **PHW 2150** *Air Environment*
  - **PHWD 2230** *Water Environment*
- Minor: Epidemiology Minor: **PH 2615L** *Epidemiology II*; **PH 2710L** *Epidemiology III* & one of the courses from the selections below:
  - **PHWD 2108L** *Applied Epidemiological Analysis*
  - **PHWD 2760L** *Occupational Epidemiology*
  - **PHD 2762L** *Environmental Epidemiology*
- Breadth: Person-Centered Well-Being Breadth: **PHD 2845L** *Nutritional Epidemiology* & one course from each of the grouping selections below:
  - Selection 1: 3 credit hours of a selected required course:
    - **PH 2735L** *Physical Activity and Health: Epidemiology and Mechanisms*
    - **PH 5400** *Physical Activity Assessment and Surveillance*
    - **PH 5401L** *Physical Activity and Public Health Practice*
  - Selection 2: 3 credit hours of a selected required course:
    - **PHW 2780L** *Genetic Epidemiology*
    - **PH 2815L** *Genetics and Human Disease*
    - **PHW 2970L** *Foundations of Public Health Genetics*

- o Selection 3: 3 credit hours of a selected required course:
    - **PHW 1241** *Disability and Public Health*
    - **PHD 3922** *Economic and Social Determinants of Health*
    - **PH 5220** *Gender and Leadership*
- **PHD 9999** *Dissertation Research*

For a sample course of study, see the [PhD in Environmental Science, Environmental Disease Prevention Track degree planner](#).

PhD in Environmental Sciences, Total Worker Health Track

The PhD in Environmental Sciences is a minimum of 48 semester credit hours and offers in-depth didactic and research training for students who want to focus their careers in academic, governmental, or other research institutions, and/or in high-level policy/regulatory positions. The **Total Worker Health Track** is an addition to the NIOSH-funded Education and Research Center (ERC) Southwest Center for Occupational and Environmental Health (SWCOEH). Graduates will be able to conduct research that characterizes worker well-being, as well as implement policies and practices that improve worker health.

Special Entrance Requirements

Applicants to the PhD program should have a prior MS or equivalent degree in Environmental Health Sciences or a related field from an accredited institution of higher education. In addition, applicants are expected to have successfully completed coursework in calculus, organic chemistry, physics, and biological sciences. For more information, see the [Admissions](#) section.

Course of Study

The following courses are required for a PhD in Environmental Science, Total Worker Health Track:
- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course); **PHM 1110L** *Health Promotion & Behavioral Sciences in Public Health*; **PH 1700L** *Intermediate Biostatistics*; **PHWM 2110L** *Public Health Ecology and the Human Environment*; **PH 2175L** *Toxicology I: Principles of Toxicology*; **PHM 2612L** *Epidemiology I*
    *Academic credits from leveling courses do not count towards the total required number of credits for the degree program.
- Major Courses: **PHD 2105L** *EOHS Doctoral Seminar* (taken twice) & **PHWD 2106L** *Introduction to Doctoral Research Methods in EOHS* & **PH 2245** *Fundamentals of Industrial Hygiene*
- Track-Specific Courses: **PH 2205L** *Health and Safety Program Management and Leadership* & **PH 2241L** *Fundamentals of Occupational Safety* & **PH 2270L** *Total Worker Health and Worker Well-being* & **PHW 2256** *Occupational Health Psychology* & **PH 2498** ST: *Total Worker Health Field Experience* & **PHWD 2760L** *Occupational Epidemiology*
- Minor: Health Promotion and Behavioral Sciences Minor: **PHD 1113L** *Advanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)* & **PHD 1120L** *Program Evaluation* & [**PHD 1118L** *Qualitative Methods* or **PHD 1123L** *Community Health Promotion Theory and Practice]*
- Breadth: Worker-Centered Well-Being Breadth: Four courses (12 credit hours) from the selections below:
    - o **PHW 1236** *Issues in Aging*
    - o **PH 1410L** *Addiction and Society*
    - o **PH 1350L** *Ethnicity, Race, Class & Gender: A Multicultural Public Health Perspective*
    - o **PH 2246L** *Principles of Occupational Ergonomics*
    - o **PHWD 2835** *Injury Epidemiology*
    - o **PHD 2845L** *Nutritional Epidemiology*
    - o **PHD 2762L** *Environmental Epidemiology*
    - o **PHD 3810** *Health Policy in the U.S.*
    - o **PHD 3910** *Health Economics*
    - o **PH 3737L** *Cost-effectiveness for Public Health Interventions*
    - o **PH 5220** *Gender and Leadership*
    - o Students may take one of the following courses as part of the breadth requirement:
        - **PH 5400** *Physical Activity Assessment and Surveillance*
        - **PH 5401L** *Physical Activity and Public Health Practice*

- ▪ **PH 2735L** *Physical Activity & Health: Epidemiology & Mechanics*
- **PHD 9999** *Dissertation Research*

For a sample course of study, see the [PhD in Environmental Health, Total Worker Health Track degree planner](#).

DEPARTMENT OF HEALTH PROMOTION AND BEHAVIORAL SCIENCES

Health Promotion and Behavioral Sciences (HPBS) seeks to improve public health through the application of social and behavioral sciences and working alongside communities to promote health and well-being.

Minor in Behavioral Sciences

The department offers a minor course of study (nine (9) semester credit hours). Students are required to select at least one course from the Theory category and one course from the Methods category:

- Theory Courses: **PHD 1113L** *Advanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)* OR **PHD 1122L** *Health Promotion Theories for Individuals and Groups: Part I* OR **PHD 1123L** *Community Health Promotion Theory and Practice* OR **PHD 1227L** *Health Promotion Theories for Individuals and Groups: Part II*
- Methods Courses: **PHD 1118L** *Qualitative Methods* OR **PH 1119L** *Qualitative Analysis* OR **PHD 1120L** *Program Evaluation* OR **PHD 1121L** *Advanced Quantitative Analysis for Behavioral Sciences* OR **PHD 1321L** *Social Networks and Health* OR **PH 1323L** *Applied Methods of Longitudinal and Ecological Momentary Assessment (EMA) Data* OR **PH 1324L** *Applied Discrete Data Analysis using STATA* OR **PHD 1130L** *Applied Measurement Theory* OR **PHD 1132** *Latent Variable Models and Factor Analysis* OR **PHD 1420L** *Quantitative Research Design for Behavioral Sciences* OR **PHD 1421L** *Quantitative Analysis for Behavioral Sciences* OR **PHD 1431** *Tools and Methods for Systematic Reviews*

MPH in Health Promotion/Health Education

The MPH in Health Promotion/Health Education is a minimum of 45 semester credit hours and is the basic professional degree and integrates the core public health disciplines with behavioral and social sciences. The curriculum emphasizes intervention methods for health promotion development and evaluation in a variety of settings.

Course of Study

The following courses are required for an MPH in Health Promotion/Health Education:

- Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L** & **PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PHM 1111L** *Health Promotion Theory and Methods* & **PH 1112L** *Community Assessment Methods in Public Health* & **PHM 1113L** *Advanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)* & **PHM 1120L** *Program Evaluation* & **PH 1433** *Research Seminar in Health Promotion and Behavioral Sciences*
- Elective Courses
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHM 1496** *Capstone for HPBS Students* or **PHM 9998** *Culminating Experience/Thesis Research* (for students completing an independent ILE or traditional academic thesis)

For a sample course of study, see the MPH in Health Promotion/Health Education degree planner.

MPH in Health Promotion/Health Education, Dietetic Internship

The MPH in Health Promotion & Health Education, Dietetic Internship is a minimum 45 semester credit hours and is the fundamental degree in public health nutrition. Students delve into this area of concentration through didactic work, supervised practice, and their final specialty practice rotation with staff relief in an area of public health nutrition selected by each intern.

Course of Study

The following courses are required for an MPH in Health Promotion/Health Education, Dietetic Internship:

- Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L** & **PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PHM 1111L** *Health Promotion Theory and Methods* & **PHM 1113L** *Advanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)* & **PHM 1229** *Medical Nutrition Therapy Simulation Lab* & **PHM 1231L** *Medical Nutrition Therapy* & **PHM 1232L** *Public Health*

Nutrition Practice & **PH 1498L** *ST: Nutrition Research Methods* & **PH 5030** *Diabetes Seminar* & **PH 5031** *Garden for Health* (Course Fee: $75.00) & **PH 5032** *Culinary Medicine* (Course Fee: $75.00)

- Applied Practice Experience: **PH 9997** *Practicum (section 801)*
- Integrative Learning Experience: **PHM 1496L** *Capstone for HPBS Students: Seed-to-Plate Prevention Pt. 1* (section 850) & **PHM 1496L** *Capstone for HPBS Students: Seed-to-Plate Prevention Pt. 2* (section 800); or **PHM 9998** *Thesis Research* (for students completing a traditional academic thesis)

For a sample course of study, see the MPH in Health Promotion/Health Education, Dietetic Internship degree planner.

DrPH in Health Promotion/Health Education

The DrPH in Health Promotion/Health Education is a minimum of 54 semester credit hours. It is designed to train students for leadership roles as public health professionals in governmental and non-governmental agencies, health departments, or for work in the research or academic setting, and emphasizes working alongside communities in the development, implementation and evaluation of theory-based public health interventions in public settings. An important component of this degree program is the ability to communicate findings to the public and policymakers, and students are expected to contribute to and apply scientific discoveries in public health settings through research.

Special Entrance Requirements

Applicants to the DrPH program should hold an earned master's degree or equivalent in public health with a substantial behavioral sciences component. Preferred applicants are those who have leadership experience through paid employment or volunteer work. In exceptional cases, applicants without the required academic background in public health may be accepted on the condition of additional coursework in public health. Applicants are asked to submit a writing sample that demonstrates competence in written communication for academic work. Theses, publications, or other academic work are preferred. Applicant should be the sole or first author on the submitted work. For more information, see the Admissions section.

Course of Study

The following courses are required for a DrPH in Health Promotion & Health Education:

- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course) & **PHM 1110L** *Health Promotion and Behavioral Sciences in Public Health* & **PHM 1690L** *Introduction to Biostatistics in Public Health*; **PHM 2612L** *Epidemiology I*
  *Academic credits from leveling courses do not count towards the total required number of credits for the degree program.
- Before Preliminary Exam: **PHD 1113L** Ad*vanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)* & **PHD 1120L** *Program Evaluation* & **PHD 1122L** *Health Promotion Theories for Individuals and Groups: Part I* & **PHD 1123L** *Community Health Promotion Theory and Practice* & **PHD 1420L** *Research Design for Behavioral Sciences* & **PHD 1421L** *Quantitative Analysis for Behavioral Sciences* & **PH 1433** *Research Seminar in Health Promotion & Behavioral Sciences*
- After Preliminary Exam: **PHD 1118L** *Qualitative Methods* & **PHD 1121L** *Advanced Quantitative Analysis for Behavioral Sciences* & **PHD 1450** *Dissemination and Implementation Theory and Methods* & **PHD 5500** *Principles of Adult and Community Education for Public Health Educators* & **PHD 3950** *Applied Leadership Studies in Public Health* & **PHD 3801L** *Community-based Grant Writing Workshop* & **PHD 3631L** *Community Engagement/ Community-based Participatory Research* & **PH 3835** *Public Health Advocacy*
- Epidemiology Requirement: all students are required to complete an Epidemiology course during their course of study. Please read carefully the following scenarios:
  - If a student took **PHM 2612L** *Epidemiology I* at the UTHealth School of Public Health as a master's (MPH or MS) student, the required epidemiology course is NOT Needed, and the student may apply these credits towards electives or dissertation hours. Note that only six (6) credit hours of dissertation research can be counted toward the total required credits of the degree program.
  - If a student HAS taken Epidemiology I, but it was taken at another institution, the student MUST take another epidemiology course at UTHealth School of Public Health to meet the School's epidemiology requirement. The student may elect to complete the epidemiology requirement as part of an epidemiology minor.
  - If a student has NOT taken Epidemiology I at a prior institution, the student must take **PHM 2612L** *Epidemiology I* as a leveling course. The required epidemiology course requirement will then be

waived, and the student may apply these credits towards electives or dissertation hours. Note that only six (6) dissertation hours can be counted toward the degree planner.
- Minor: students are required to complete a minor outside of their department. A minor in Epidemiology is strongly encouraged.
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHD 9999** *Dissertation Research*

For a sample course of study, see the [DrPH in Health Promotion/Health Education degree planner](#).

PhD in Behavioral Sciences and Health Promotion

The PhD in Behavioral Sciences and Health Promotion is a minimum 48 semester credit hours and focuses on behavioral and socioecological aspects of public health and the development and evaluation of health promotion interventions. It primarily prepares scholars to integrate and develop state-of-the-art social and behavioral science theory, design, and analytic approaches to examine current problems in public health while working alongside communities. The emphasis in this degree program is preparation for independent research and teaching, and an important component of this degree program is the ability to contribute to scientific literature.

Special Entrance Requirements

Applicants to the PhD program should hold an earned master's degree in a social or behavioral sciences or an earned master's degree in public health with research experiences, thesis experience, and/or coursework related to social and behavioral sciences or an earned master's degree in another field and at least 12 hours of upper-division undergraduate or graduate coursework in social or behavioral sciences. In exceptional cases, applicants without this experience may be accepted on the condition of completing additional graduate work in the behavioral or social sciences. Applicants are asked to submit a writing sample that demonstrates competence in written communication for academic work. Theses, publications, or other academic work are preferred. For more information, see the [Admissions](#) section.

Course of Study

The following courses are required for a PhD in Behavioral Sciences and Health Promotion:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- Before Preliminary Exam: **PHD 1113L** Ad*vanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)* & **PHD 1122L** *Health Promotion Theories for Individuals and Groups: Part I* & **PHD 1227L** *Health Promotion Theories for Individuals and Groups: Part II* & **PHD 1420L** *Research Design for Behavioral Sciences* & **PHD 1421L** *Quantitative Analysis for Behavioral Sciences* & **PH 1433** *Research Seminar in Health Promotion & Behavioral Sciences* & **PHM 2612L** *Epidemiology I*
- After Preliminary Exam: **PHD 1118L** *Qualitative Methods* & **PHD 1435** *HPBS Doctoral/Post-Doctoral Research Seminar* & **PHD 1440** *Proposal Writing for Health Promotion and Behavioral Sciences*
- Minor: students are required to complete a minor outside of their department.
- Public Health Methods Breadth: **PHD 1130L** *Applied Measurement Theory* and six (6) credit hours of additional methods coursework
- Dissertation: **PHD 9999** *Dissertation Research*

For a sample course of study, see the [PhD in Behavioral Sciences and Health Promotion degree planner](#).

DEPARTMENT OF MANAGEMENT, POLICY AND COMMUNITY HEALTH

The Department of Management, Policy and Community Health (MPACH) provides instruction in the fields of health economics, health services research, health policy, health law, health management and administration, health planning, community health practice, public health leadership, population health, organization management, health disparities, economic and social determinants of health, and health and economic development.

Minor in Community Health Practice

The department offers a minor course of study (nine (9) semester credit hours) for students majoring in other public health disciplines. Student select three courses from the approved list:

- Masters students: **PHM 3630** *Health Program Planning, Implementation, and Evaluation;* **PH 1112L** *Community Assessment Methods in Public Health;* **PH 3920** *Health Services Delivery and Performance;* **PHM 3922** *Economic and Social Determinants of Health;* **PHM 3620L** *Principles and Practice of Public Health*
- Doctoral students: **PHD 3800L** *Working with Diverse Communities* & **PHD 3631L** *Community Engagement/ Community-based Participatory Research* & **PHD 3625L** *Practice-based Methods and Design.*

Minor in Health Economics

The department offers a minor course of study (nine (9) semester credit hours) for students majoring in other public health disciplines. Student select three courses from the approved list: **PHD 3910** *Health Economics;* **PH 3915** *Methods for Economic Evaluation of Health Programs;* **PH 3922** *Economic and Social Determinants of Health***; PHD 3930** *Econometrics in Public Health;* **PHD 3931** *Advanced Econometrics;* **PHD 3935** *Advanced Health Economics;* **PHD 3998** *Decision Analysis in Public Health and Medicine.*

Minor in Health Policy

The department offers a minor course of study (nine (9) semester credit hours) for students majoring in other public health disciplines. Student select three courses from the approved list: **PHD 3810** *Health Policy in the United States;* **PHD 3812** *Comparative Health Systems;* **PH 3815** *Health Policy Analysis;* **PH 3818** *Texas Health Policy: Emerging Issues and New Approaches***; PH 3738L** *Legal Issues in Healthcare;* **PHD 3830** *Ethics and Policy;* **PH 3736L** *U.S. Healthcare Payment Systems and Policy*

Minor in Health Services Research

The department offers a minor course of study (nine (9) semester credit hours) for students majoring in other public health disciplines. Student select three courses from the approved list: **PH 3920** *Health Services Delivery and Performance;* **PHD 3926L** *Health Survey Research Design;* **PHD 3930** *Econometrics in Public Health;* **PH 3940** *Healthcare Outcomes and Quality Research;* **PHD 3945** *Advanced Health Services Research Methods;* **PHD 3998** *Decision Analysis in Public Health and Medicine.*

Minor in Healthcare Management

The department offers a minor course of study (nine (9) semester credit hours) for students majoring in other public health disciplines. Students select three courses from the approved list:

- Masters students: **PHM 3718** *Accounting for Healthcare Management;* **PHM 3744L** *Organizational Behavior and Human Resource Management in Health Services Organizations;* **PHM 3746L** *Evaluation and Improvement of Healthcare Quality;* **PHM 3720L** *Healthcare Finance;* **PH 3747L** *Healthcare Operations Management;* **PH 3735L** *Healthcare Strategic Management*
- Doctoral students: **PHD 3846L** *Quality Management and Improvement in Healthcare;* **PHD 3721L** *Healthcare Finance;* **PHD 3946L** *Strategy, Governance, and Leadership;* **PHD 3743L** *Organizational and Management Theory*

MPH in Community Health Practice

The MPH in Community Health Practice is a minimum 45 semester credit hours and focuses on the application of public health sciences at the community level, and emphasizes systematic analysis and appropriate use of quantitative and qualitative health data. Faculty and students are concerned with the assessment of population

health, the planning, implementation and evaluation of health programs in community settings, and appraisal of community-level effects of health policies and programs.

Special Entrance Requirements
Applicants to the MPH program should hold an undergraduate and/or graduate degrees in one of a variety of areas, including the social and behavioral sciences, business, the biological and medical sciences, law, and/or quantitative methods. For more information, see the Admissions section.

Course of Study
The following courses are required for an MPH in Community Health Practice:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L** & **PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PH 1112L** *Community Assessment Methods in Public Health* & **PHM 3620L** *Principles and Practice of Public Health* & **PHM 3630** *Health Program Planning, Implementation, and Evaluation* & **PHM 3800L** *Working with Diverse Communities* & **PHM 3922** *Economics and Social Determinants of Health*
- Elective Courses
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHM 3996L** *Capstone for MPCH Students* or **PHM 9998** Culminating Experience/*Thesis Research* (for students completing an independent ILE or traditional academic thesis)

For a sample course of study, see the MPH in Community Health Practice degree planner.

MPH in Health Services Organizations
The MPH in Health Services Organization is a minimum 45 semester credit hours and emphasizes the planning, management, and evaluation of health systems, services, technologies, and policy. The curriculum includes health economics, decision analysis, health services research, public health and legislative processes, survey research, outcomes research, quantitative methods, evaluation research, health disparities and vulnerable populations, health administration, economic and social determinants of health, utilization of health services, and ethical and legal aspects of public health.

Course of Study
The following courses are required for an MPH in Health Services Organizations:
- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L** & **PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PHM 3910** *Health Economics* & **PH 3915** *Methods for Economics Evaluation of Health Programs* & **PH 3920** *Health Services Delivery and Performance* & one course from each of the following:
  - Selection 1: Three (3) credit hours of a selected required course: **PHM 3746L** *Evaluation and Improvement of Healthcare Quality* OR **PH 3940** *Healthcare Outcomes and Quality Research*
  - Selection 2: Three (3) credit hours of a selected required course: **PH 3815** *Health Policy Analysis* OR **PHD 3930** *Econometrics*
  - Selection 3: Three (3) credit hours of a selected required course: **PHM 3810** *Health Policy in the United States* OR **PH 3818** *Texas Health Policy: Emerging Issues and New Approaches*
  - Selection 4: Three (3) to four (4) credit hours of a selected required course: [**PHM 3718L** *Accounting for Healthcare Management* AND **PHM 3720L** *Healthcare Finance* (both of these should be taken if selected)] OR **PH 3815** *Health Policy Analysis* OR **PHD 3930** *Econometrics* OR **PHD 3931** *Advanced Econometrics* OR **PH 3736L** *U.S. Healthcare Payment Systems & Policy* OR **PH 3738L** *Legal Issues in Healthcare*
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHM 3996L** *Capstone for MPCH Students* or **PHM 9998** Culminating Experience/*Thesis Research* (for students completing an independent ILE or traditional academic thesis)

For a sample course of study, see the MPH in Health Services Organizations degree planner.

MPH in Healthcare Management

The MPH in Healthcare Management is a minimum 45 semester credit hours and is designed to provide students with a solid foundation in management in an interdisciplinary public health environment and a basis for understanding key managerial functions within the broad spectrum of public health systems. Students gain an appreciation of all aspects of management, including organizational theory, finance, operations management, law and strategy, which will help to improve organizational and community decision-making. A distinctive characteristic of this healthcare management degree program is recognition of the importance of linking private-sector healthcare institutional management with public-sector healthcare management and related community initiatives.

Course of Study

The following courses are required for an MPH in Healthcare Management:

- Other Required Course: **PH 101** *Foundations in Public Health* (online, not-for-credit course)
- MPH Core: **PHM 1110L** & **PHM 1690L** & **PHWM 2110L & PHM 2612L** & **PHM 3715L** & **PHM 5015L**
- Major Courses: **PHM 3718L** *Accounting for Healthcare Management* & **PHM 3720L** *Healthcare Finance* & **PH 3735L** *Healthcare Strategic Management* & **PH 3736L** *U.S. Healthcare Payment Systems and Policy* & **PH 3738L** *Legal Issues in Healthcare* & **PHM 3744L** *Organizational Behavior and Human Resource Management in Health Services Organizations* & **PHM 3746L** *Evaluation and Improvement of Healthcare Quality* & **PH 3747L** *Healthcare Operations Management*
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHM 3996L** *Capstone for MPCH Students* or **PHM 9998** *Culminating Experience/Thesis Research* (for students completing an independent ILE or traditional academic thesis)

For a sample course of study, see the MPH in Healthcare Management degree planner.

DrPH in Community Health Practice

The DrPH in Community Health Practice is a minimum of 54 semester credit hours and offers interdisciplinary training for students who wish to practice at an advanced level in public health. Students are trained to engage in community-driven, grassroots and inter-sectoral applied research with a focus on addressing social inequity and systems-level change through the adoption of a transdisciplinary framework.

Special Entrance Requirements

Applicants to the DrPH program should have a prior MPH degree or its equivalent. Preferred applicants are those with public health work experience and those who have completed coursework in quantitative methods or who can provide evidence of quantitative abilities. All DrPH students are expected to have completed **PH 1700L** *Intermediate Biostatistics* or its equivalent. In exceptional cases, applicants without the required academic background in public health may be accepted on the condition of additional coursework in public health. For more information, see the Admissions section.

Course of Study

The following courses are required for a DrPH in Community Health Practice:

- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course) & **PHM 1690L** *Introduction to Biostatistics in Public Health* & **PHM 1110L** *Health Promotion and Behavioral Sciences in Public Health* & **PHM 2612L** *Epidemiology I* & **PHM 3715L** *Management and Policy Concepts in Public Health*
  *Academic credits from leveling courses do not count towards the total required number of credits for the degree program.
- Before Preliminary Exam: **PHD 1120L** *Program Evaluation* & **PH 2615L** *Epidemiology II* & **PHD 3620L** *Principles and Practice of Public Health* & **PHD 3801L** *Community-based Granting Writing Workshop* & **PHD 3631L** *Community Engagement/Community-based Participatory Research* & **PHD 3625L** *Practice-based Methods and Design* & **PHD 3800L** *Working with Diverse Communities*
- Major Courses: **PHD 3950** *Applied Leadership Studies in Public Health* & **PHD 3830** *Ethics and Policy* & **PHD 1118L** *Qualitative Methods* & **PH 1700L** *Intermediate Biostatics* & **PHD 5500** *Principles of Adult and Community Education for Public Health* & **PH 3835** *Public Health Advocacy* & one other course from the selected list:

- o **PHD 3918L** *Geographic Information Systems Science*
- o **PHD 3926L** *Health Survey Research Design*
- o **PH 3738L** *Legal Issues in Healthcare*
- Minor: students are required to complete a minor outside of their department
- Applied Practice Experience: **PH 9997** *Practicum*
- Integrative Learning Experience: **PHD 9999** *Dissertation Research*

For a sample course of study, see the DrPH in Community Health Practice degree planner.

PhD in Management and Policy Studies, Health Economics/Health Services Research Track

The PhD program in Management and Policy Studies, Health Economics/Health Services Research is a minimum 48 semester credit hours and emphasizes the study of cost, access, outcomes, and quality within health care systems. Students focus on understanding decision-making processes among consumers, providers, institutions, and policy makers, and pursue advanced study that leads to original research.

Special Entrance Requirements
Applicants to the PhD program must have an appropriate post-bachelor's degree in the social sciences, economics, policy, law, management, clinical sciences or public health. Also, applicants must have an advanced knowledge of quantitative methods; preferred applicants have strong math and/or statistics backgrounds. For more information, see the Admissions section.

Course of Study
The following courses are required for a PhD in Management and Policy Studies, Health Economics/Health Services Research Track:

- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course); **ECON 6485** *Microeconomics Analysis* (University of Houston)*; **POLC 6312** *Public Finance* (University of Houston)*; and [**ECON 6465** *Econometrics* (University of Houston)*; **ECON 7351** *Development Economics: Microeconomic Issues* (University of Houston)*; **ECON 515** *Labor Economics* (Rice University)*]
- Before Preliminary Exam: **PHD 3910** *Health Economics* & **PH 3915** *Methods for Economic Evaluation of Health Programs* & **PH 3920** *Health Services Delivery and Performance* & **PHD 3926L** *Health Survey Research Design* & **PHD 3930** *Econometrics in Public Health* & **PH 3940** *Healthcare Outcomes and Quality Research*
- Required Course: **PHM 2612L** *Epidemiology I*
- Select a Track:
  - o Health Economics Track: **PHD 3935** *Advanced Health* Economics
  - o Health Services Research Track: **PHD 3945** *Advanced Health Services Research Methods*
  - o Additional Required Courses for Either Track: **PHD 3812** *Comparative Health Systems* OR **PHD 3922** *Economic and Social Determinants of Health* **PHD 3931** *Advanced Econometrics* OR **PHD 3935** *Advanced Health Economics* OR **PH 3941** *Claims Data in Healthcare Research* OR **PHD 3945** *Advanced Health Services Research Methods* **PHD 3957L** *Topics in Health Economics*
- One breadth and one minor or two minors:
  - o Students who elect to complete two minors must complete at least one minor outside of the department of MPCH.
  - o Students who elect to complete one minor and one breadth:
    - Students who elect a primary minor within the MPCH department must complete at least two courses of the breadth outside of the department
    - Students who elect a primary minor outside of the MPCH department may complete breadth coursework in any department.
- Dissertation: **PHD 9999** *Dissertation Research*

 *These courses are available through the Gulf Coast Consortium Agreement.

For a sample course of study, see the PhD in Management and Policy Studies, Health Economics/Health Services Research Track degree planner.

PhD in Management and Policy Studies, Healthcare Management/Health Policy Track

The PhD in Management and Policy Studies, Healthcare Management/Health Policy Track is a minimum 48 semester credit hours and emphasizes the development and evaluation of health policy, leadership development within healthcare organizations, understanding the complexities of healthcare delivery while addressing costs and quality, and develops researchers who can ask relevant questions, identify answers and drive policy and organizational change.

Special Entrance Requirements

Applicants to the PhD program must have an appropriate post-bachelor's degree in the social sciences, policy, law, management, clinical sciences or public health. Also, applicants must have an advanced knowledge of quantitative methods; preferred applicants with strong math and/or statistics backgrounds. For more information, see the Admissions section.

Course of Study

The following courses are required for PhD in Management and Policy Studies, Healthcare Management/Health Policy Track:

- Leveling and Other Required Courses: **PH 101** *Foundations in Public Health* (online, not-for-credit course) & **PH 1700L** *Intermediate Biostatistics*
  *Academic credits from leveling courses do not count towards the total required credits for the degree program.
- Before Preliminary Exam: **PHD 3731L** *Research Design and Inquiry* & **PHD 3743L** *Organizational and Management Theory* & **PHD 3810** *Health Policy in the United States* & **PH 3815** *Health Policy Analysis* & **PHD 3846L** *Quality Management and Improvement in Healthcare* & **PHD 3946L** *Strategy, Governance, and Leadership*
- Required Course: **PHM 2612L** *Epidemiology I*
- Select an Emphasis Area:
  - Healthcare Management Emphasis (six credit hours of selected required coursework): **PHD 3721L** *Healthcare Finance* OR **PH 3736L** *U.S. Healthcare Payment Systems and Policy* OR **PH 3738L** *Legal Issues in Healthcare* OR **PHD 3812** *Comparative Health Systems* OR **PH 3825** *Public Health Law* OR **PHD 3910** *Health Economics* OR **PHD 3922** *Economic & Social Determinants of Health* OR **PHD 3940** *Healthcare Outcomes and Quality Research*
  - Health Policy Emphasis (six credit hours of selected required coursework): **PHD 3812** *Comparative Health Systems* OR **PH 3818** *Texas Health Policy: Emerging Issues and New Approaches* OR **PH 3825** *Public Health Law* OR **PHD 3830** *Ethics and Policy* OR **PH 3736L** *U.S. Healthcare Payment Systems and Policy* OR **PH 3915** *Methods for the Economic Evaluation of Health Programs* OR **PHD 3998** *ST: Advanced Policy Studies*
- One breadth and one minor or two minors: students are encouraged to select methodology courses appropriate for their dissertation topic.
  - Students who elect to complete two minors must complete at least one minor outside of the department of MPCH.
  - Students who elect to complete one minor and one breadth:
    - Students who elect a primary minor within the MPCH department must complete at least two courses of the breadth outside of the department
    - Students who elect a primary minor outside of the MPCH department may complete breadth coursework in any department.
- Dissertation: **PHD 9999** *Dissertation Research*

For a sample course of study, see the PhD in Management and Policy Studies, Healthcare Management/Health Policy Track degree planner.

PH 101 *Foundations in Public Health*
Not-for-credit
This course is required for all students enrolled in a degree-seeking program. This course is an online, not-for-credit course that covers the Foundational Knowledge Competencies set forth by the Council on Education for Public Health (CEPH). Students will be added to the course in Canvas during their first semester and must complete the course within one year of matriculation.

Health Promotion and Behavioral Sciences Courses

PHM 1110L *Health Promotion and Behavioral Sciences in Public Health*
3 credits
After completing this MPH core course, students will be able to explain the contribution of health promotion and behavioral sciences to public health. Students will learn about commonly used theories and models, community engagement, health equity, needs assessment, and program design, implementation, and evaluation. Throughout the semester, students will improve communication skills while applying newly acquired knowledge related to public health problems.

PHM 1111L *Health Promotion Theory and Methods*
4 credits
This course introduces students to the application of selected behavioral science theories and concepts in health promotion directed to affect individual behavior change, and environmental and policy theories and concepts to affect changes in organizations, communities, and governments. Topics specific to environmental and policy change include organizational change theory, mass media, community organizations, diffusion of innovations, social networks, community development, community engagement, and public policy campaigns. Students are provided opportunities to demonstrate knowledge and gain experience in applying theory, in designing interventions, and in building coalitions to affect programs, policies, and environmental conditions.
Prerequisites: PHM 1110L

PH 1112L *Community Assessment Methods in Public Health*
3 credits
This course will ground students in key concepts and methodologies related to community health needs assessment (CHNA), including the meaning of community and methods for assessment that span primary and secondary data collection. The students will learn to design a community assessment with partnering community agencies. The assessment process will be conceptualized as a research methodology and process for developing and prioritizing community health programs and policies for a stakeholder organization. The course also introduces new and non-traditional methods and technologies for CHNA. It covers practical assessment considerations such as social action, strategic and culturally appropriate communications, Community-based Participatory Research (CBPR) approaches, and supporting the community in action planning and implementation.
Prerequisites: PHM 1110L

PHM 1113L *Advanced Methods for Planning and Implementing Health Promotion Programs (Intervention Mapping)*
3 credits
PHD 1113L *Advanced Methods for Planning and Implementing Health Programs (Intervention Mapping)*
3 credits
This course integrates and extends the knowledge of behavioral science theory into planning models for health promotion programs that include conducting a needs and assets assessment, determination of priorities, setting goals, stating objectives, designing interventions, and developing an implementation and evaluation plan. The teaching methods emphasize group process skills through modeling and guided practice applied to the planning process. Student evaluations include a guided written health promotion project plan and participation in class and group assignments.
Prerequisites for PHM 1113L: PHM 1110L & PHM 1111L & [PHM 2610 or PHM 2612L]; strongly recommend: PHM 1690L or PH 1700L
Prerequisites for PHD 1113L: [PHM 2610 or PHM 2612L] & [PHM 1111L or PHD 1122L]; strongly recommend: PHM 1690L or PH 1700L

PHM 1116 *Introduction to Intervention Mapping*
2 credits
PHD 1116 *Introduction to Intervention Mapping*
2 credits
This one-week intensive course integrates and extends the knowledge of behavioral science theory into planning models for health promotion programs that include conducting a needs and assets assessment, determination of priorities, setting goals, stating objectives, designing interventions, and developing an implementation and evaluation plan. The teaching methods emphasize group process skills through modeling and guided practice applied to the planning process. Students work on health problems of their choice. Student evaluations include a guided written health promotion project plan and participation in class and group assignments.
Prerequisites for PHM 1116: PHM 1110L & [PHM 2610 or PHM 2612L]; strongly recommend: PHM 1690L or PH 1700L
Prerequisites for PHD 1116: [PHM 1110L or PHM 1111L or PHD 1122L] & [PHM 2610 or PHM 2612L]; strongly recommend: PHM 1690L or PH 1700L

PHD 1118L *Qualitative Methods*
3 credits
The course covers the underpinnings of qualitative research from the approaches, methods, and practice of data collection used in the conduct of qualitative inquiries to thematic analysis and write up. Students gain experiences in the design and practices of fieldwork including observation and mapping, developing interview and group discussion guides, and conducting interviews. They also learn to develop a codebook and basics of qualitative analysis as they prepare to disseminate their work in presentations and papers.

PH 1119L *Qualitative Analysis*
3 credits
Building on their coding and thematic analysis skills, this course introduces students to a range of qualitative analyses (e.g., narrative, discourse, constructivist grounded theory, framework and policy analyses) and appropriate ways to use them. Each student is guided through the process of identifying a qualitative data set and selecting an appropriate analysis approach for it. Students move from conducting their data analysis through writing up a draft manuscript. Classroom sessions include lectures, writing exercises, discussions, and presentations of analyses and findings.
Prerequisites: PHD 1118L or PHM 5015

PHM 1120L *Program Evaluation*
3 credits
PHD 1120L *Program Evaluation*
3 credits
This course introduces students to program evaluation, emphasizing a range of evaluation goals and designs and prepares students to develop a plan for the evaluation of a health program or policy. In this course, the evaluation plan structure focuses on three levels: (1) the design of a logic model; (2) program implementation and process; and (3) program impact and outcomes, including threats to validity and measurement issues. Program logic models guide the program evaluation process. Stakeholder involvement emphasizes collaborative approaches to promote evaluation plan feasibility and relevance. MPH students will work in small groups to identify a community-based program or policy as the basis for their work to enhance the "real world" experience. Doctoral students will work independently to develop an evaluation plan for a multi-level, community-based program or policy as the basis for their work; they will additionally learn the skills associated with designing a multi-level evaluation project to address a public health issue. This project will prepare doctoral students to explain how evaluation methods can address health issues at multiple levels.
Prerequisites: [PHM 2610 or PHM 2612L] & [PHM 1110L or PHM 1111L]

PHD 1121L *Advanced Quantitative Analysis for Behavioral Sciences*
3 credits
The course will focus on statistical methods for research evaluation that extend basic principles of multiple regression, including limited dependent variables, mediation, moderation, and correlated data models (e.g. multilevel models); missing data models, including multiple imputation; study designs and methods that can enhance the internal validity of an evaluation and compensate for a lack of randomization and selection bias, including propensity scores. Class time will be

used for lectures, and a semester project will provide an opportunity to apply the methods of this course to analyze real-world data.
Prerequisites: PHD 1120L & PHD 1420L & [PHD 1421L or equivalent] & [Recommended: PHD 1130L]. If required courses were taken elsewhere or in departments other than HPBS, provide syllabi to instructor for approval.

PHD 1122L *Health Promotion Theories for Individuals and Groups: Part I*
3 credits
This course provides HPBS doctoral students with an overview of the application of selected behavioral science theories and models used in health education and health promotion programs directed toward individuals and groups. The goals for this class are to provide students opportunities to apply behavioral science theories and models to the development of interventions for health problems and to improve scientific writing skills. Students will demonstrate their ability to use theory for understanding a health issue and improve scientific writing skills through written assignments.
Prerequisites: strongly recommend: PHM 1110L or PHM 1111L or equivalent

PHD 1123L *Community Health Promotion Theory and Practice*
3 credits
This required course for DrPH students in Health Promotion & Health Education aims to build students' knowledge and skills in community health promotion research and practice via exploration and application of community and environmental-level health promotion theories, community health promotion planning models, and community/environmental-level health promotion change methods that include participatory problem solving, coalition building, and advocacy. Students will engage in diverse learning activities and the development of an NIH community health promotion research funding proposal.
Prerequisites: PHM 1110L or equivalent

PHW 1124 *Introduction to Data Management in Stata*
1 credit
This short course is designed for masters or doctoral students who have no exposure to any statistical software, and want to gain hands-on familiarity with using statistical software (Stata), prior to taking a semester-long statistical analysis course, such as PHM 1690L or PHD 1421. Students will practice a variety of skills necessary to create a clean and annotated dataset prior to analysis of a specific research question, including reading external data files in Stata, cleaning and creating new variables, conducting preliminary descriptive analyses, and basic regression.

PHD 1130L *Applied Measurement Theory*
3 credits
This course introduces students to the basic aspects of psychometric theory, with an emphasis on the development of valid and reliable measurement scales. The course covers classical test theory; common scaling methods; analytic methods relevant to scale construction, including exploratory and confirmatory factor analysis; and survey construction, design, and administration. Students have an opportunity to become familiar with various statistical approaches and software used to assess psychometric properties of scales as well as with strategies for survey construction and administration.
Prerequisites: PHD 1421L

PHD 1132 *Latent Variable Models and Factor Analysis*
3 credits
This course helps students develop the skills and understanding necessary to use and apply several statistical techniques included under the umbrella of Latent Variable Analysis. The course covers Exploratory and Confirmatory Factor Analysis, Path Analysis, Structural Equation Modeling, Assessment of Measurement Invariance, and Latent Growth Curve Modeling. The course focuses on the application of these methods in public health, reading and understanding research studies that use these methods, and developing research reports and presentations from analyses they have conducted.
Prerequisites: PH 1700L or PHD 1421L or consent of instructor. The completion of an applied multivariate statistics course is strongly recommended.

PHD 1227L *Health Promotion Theories for Individuals and Groups: Part II*
3 credits
This doctoral level course focuses on theories that will advance the student's understanding of health behavior and their application to health behavior interventions. The course provides an overview of the philosophy of science, a review and

critique of key health behavior theories and an in-depth exploration of the key conceptual building blocks making up these theories. This course complements PHD 1122L, Research Design I and II and is a requirement for all PhD students in Health Promotion and Behavioral Sciences.
Prerequisites: [Only students who have taken PHD 1122L will be able to take this course]

PH 1228 *Food Policy*
3 credits
The purpose of this course is to identify the ways in which social, cultural, economic, commercial, and institutional factors promote or act as barriers to the design and implementation of equitable agriculture, food, and nutrition policies and programs, and the ways in which these policies and programs affect health. The course can serve as an elective for those interested in community-based health promotion, policy, and/or nutrition.

PHM 1229 *Medical Nutrition Therapy Simulation Lab*
2 credits
This course, in the simulation lab in Houston, will offer the student the opportunity to learn the Nutrition Care Process, which includes nutrition focused physical assessment and the assessment process of malnutrition. In a realistic treatment setting with a computer-controlled and instructor-manipulated manikin "patient," students will learn specific clinical skills leading to proficiency in clinical judgment and performance. Behavioral-based strategies for counseling relating to nutrition will also be included in this course.
Prerequisites: Currently enrolled in Dietetic Internship Program – MPH/Dietetic Intern, MD/MPH, or RN/MPH.

PHM 1231L *Advanced Medical Nutrition Therapy*
3 credits
This advanced course focuses on the assessment, application, and nutritional management of persons with conditions requiring medical nutrition therapy in general medicine and critical care. Specialized nutritional needs and principles of clinical management are covered.
Prerequisites: Consent of instructor

PHM 1232L *Public Health Nutrition Practice*
3 credits
This course presents an overview of the roles, responsibilities, skills, and career opportunities of the public health nutritionist. Topics include review of the nutrition education literature; development of behaviorally-based nutrition education materials for the community; identification of community nutrition-related assets and resources through a community assessment; development of behaviorally-based nutrition education materials for the community based on the needs assessment; evaluation of nutrition programs; nutrition policy, including food assistance programs; food and nutrition security; current public health nutrition issues; and the cultural aspects of food consumption. Applications of national dietary goals to various population groups are presented, with a focus on underserved populations and health equity.

PH 1233L *Introduction to Public Health Nutrition*
3 credits
This course is an overview of the predominant food and nutrition issues that affect the public health of developed countries, specifically the United States. Topics include national nutrition and dietary guidelines, dietary assessment, macronutrients, micronutrients, prevention of chronic diseases, food safety and sustainability, food insecurity, and current topics in public health nutrition. Dietary issues will be presented using a life cycle approach, in which the issues are introduced and developed within the framework of a specific age categories.

PHW 1236 *Issues in Aging*
2 credits
This course is designed to expose students to different aspects of aging. The course content covers the biopsychosocial aspects including the biology of aging, healthy aging, physical activity and aging, cognitive, psychological, and social changes related to aging as well as a host of aging-related conditions. The recorded lectures provide content and context for the course material and learners are expected to demonstrate applied understanding through discussion boards and mastery via quizzes and exams.

PH 1237 *Obesity, Nutrition, & Physical Activity*
1 credit
This seminar course provides a forum for students to learn to critically review the research literature in the areas of obesity, nutrition, and physical activity. Topics will vary and will be driven by the current published literature and emerging areas of research. Seminars will be set up in an informal manner, with faculty leading the first session and students assuming the lead later in the semester. Review of papers will be accompanied by in-depth discussions focusing on study design and analysis and interpretation of results, as well as on the relationship of the paper to the existing body of knowledge.

PH 1238 *Adolescent Sexual Health*
3 credits
This course explores determinants, approaches, and controversies related to adolescent sexual health. The course reframes adolescent sexuality as a multi-faceted public health issue and provides a broad perspective on sexual health education, research, and advocacy. Topics include: prevalence of adolescent pregnancy, STIs, and HIV; holistic models of sexuality; sexual diversity; cultural determinants; mental health; sex in the media; sexual violence; contraceptives; legal and political issues; effective programming and its effect on youth; and managing controversy. The course provides didactic and dynamic opportunities for exploration of attitudes regarding sexuality and skills-building through experiential learning.

PHD 1239 *Theories of Child and Adolescent Development*
3 credits
The purpose of the course is to provide students with a foundation in historical and contemporary theories of developmental science and explores how these theories facilitate our understanding of normative development from infancy through adolescence. In addition, the course will utilize developmental theories to examine the factors contributing to public health problems affecting children and youth as well as the development and implementation of public health interventions serving these populations.
Prerequisites: Must be a doctoral student

PHW 1241 *Disability and Public Health*
3 credits
This course explores a variety of issues the affect the ability of individuals with disabilities to be healthy in the context of living with their disability. Today, about 61 million Americans live with disabilities, which represents 26% of the population, and this number is expected to increase. Unlike previous generations, the life expectancy of those living with a disability now approximates that of the general population, and passage of the Americans with Disabilities Act of 1990 has increased employment opportunities and participation in community life. In order to fully take advantage of these opportunities, people with disabilities need to remain healthy. Evidence, however, demonstrates that people with disabilities experience substantial health disparities, and that public health has mostly overlooked this underserved group. Topics to be covered include existing federal legislation protecting the rights of individuals with disabilities, surveillance, issues related to access and health care services, evidence regarding lifestyle behaviors and preventive health practices, and approaches for promoting health and reducing disease.

PHW 1251 *Seminar on the Health of Sexual and Gender Minority Persons*
1 credit
This is a seminar course for students interested in the health of sexual and gender minorities. Through Canvas discussions, the course provides a venue for students to become familiar with the academic literature. This course is an elective for students seeking a Health Disparities certificate. This seminar is open to all students at UTHealth School of Public Health.

PH 1300 *Public Health Communication*
3 credits
In this course each student selects a significant public health challenge involving behavior and policy/environmental change that can be promoted and advocated through media communication. In collaborative teams, students learn how to define audiences and aims, set objectives, select strategies, and design products for an evidence-based multi-component communication plan – with guided practice of skills including news media engagement and public relations, writing and graphic arts for low-literacy audiences, constructing theory/evidence-based logic models, audience research and social marketing analysis, and use of new social and mobile media.

Prerequisites: PHM 1110L or PHM 1111L or equivalent

PH 1321L *Social Networks and Health*
3 credits
This course provides students an opportunity to gain understanding on conducting research that uses social network analysis, including major areas of health research. This course will provide students with practical applications of analytical techniques using appropriate software. Topics include theory, research design, data collection, sampling methods, and quantitative descriptions of networks, statistical modeling of networks, and example interventions relevant to various disciplines in public health.
Prerequisites: [PHM 1690L or PH 1700L] & [PHM 2610 or PHM 2612L or PHD 1420L or PH 1421L] & [Recommended: a basic theoretical statistics or categorical data analysis or generalized linear model course].

PH 1323L *Applied Methods for Longitudinal and Ecological Momentary Assessment (EMA) Data*
3 credits
The prevalence of smart phones and electronic monitoring devices makes it possible to collect data in real-time and the natural environment (i.e., ecological momentary assessment). The resulting intensive longitudinal data have brought along methodological challenges. This course is the first of its kind offered in the UTHealth to equip SPH students with sufficient skills to handle not only conventional longitudinal data but also EMA data that are becoming more popular in public health research. This course will focus on software application, as well as presentation and interpretation of results.
Prerequisites: PH 1700L

PH 1324L *Applied Discrete Data Analysis using STATA*
3 credits
This course provides students an opportunity to gain practical use and obtain discrete data analytic techniques, including data management and various regression methods for the analysis of categorical outcome variables using Stata statistical software. Topics include the logistic regression model, sampling methods, model building strategies, assessing model fit, multiple logistic regression, and Poisson regression, and some extensions of generalized linear model. This course will provide students with practical applications of these statistical methods using Stata commands.
Prerequisites: [PH 1700L or PH 1421L or equivalent] & [Recommended: a basic theoretical statistics course].

PH 1352L *Racism, Equity & Public Health*
2 credits
This course provides an understanding of how racism impacts health, social determinants and other associated factors (sexism, ableism, classism, homophobia, ageism, colorism, etc.). Students will be able describe both historical and current implications for developing interventions and inclusive policies for healing racial trauma and addressing systemic health inequities.
Prerequisites: PH 5102

PH 1400 *Planetary Health*
1 credit
Public human health depends on the health of the planet. Earth's natural systems--the air, the water, the biodiversity, the climate are our life support systems. Yet climate change, biodiversity loss, scarcity of land and freshwater, pollution and other threats are degrading these systems. The emerging field of planetary health aims to understand how these changes threaten public health and how to protect ourselves and the rest of the biosphere. The goal of the course is to provide a forum in which current research in planetary health can be reviewed and critiqued. Topics will be variable, and driven by interest of the students. Seminars will be set up in an informal manner, with faculty leading the first discussion and students assuming the lead later in the semester.

PH 1410L *Addiction and Society*
3 credits
This two-part seminar will examine substance use and addiction using two approaches: 1) historical and anthropological, and 2) psychological approaches. In the historical and anthropological part of the course, students will study social and structural influences on development and definition of substance use disorders (SUD), prevention, intervention, harm reduction, treatment, recovery and disparities. In the psychological part of the course, students will learn about diagnostic

criteria for SUD, prevalence in the U.S., comorbidity with mental health issues, developmental processes from childhood to adulthood, genetic and neurocognitive basis, health policy, and health communication.

PHD 1420L *Quantitative Research Design for Behavioral Sciences*
3 credits
This course equips students with the skills to develop research questions appropriate to the behavioral sciences that can be translated into testable hypotheses and feasible, effective research designs. Students are exposed to a variety of research design elements through published journal articles, and are expected to learn to evaluate and compare the suitability of different study designs to test specific hypotheses. A key aspect of evaluating research design is identifying potential threats to internal and external validity, as well as examining statistically conclusion validity and construct/measurement validity that are present in greater or lesser degree in all research designs, including observational, experimental, and quasi-experimental designs. Assignments and exams will focus on developing the skills to construct valid research designs appropriate to the proposed research question.
Prerequisites: consent of instructor

PHD 1421L *Quantitative Analysis for Behavioral Sciences*
3 credits
This course expands on the material covered in PHD 1420L and focuses on the choice and implementation of statistical analyses that assess differences between groups, associations among variables, and prediction of outcomes This course will cover descriptive statistics as well as statistical inference. Emphasis is placed on appropriate use of statistical software for conducting analyses to address research questions, interpreting the results from these analyses, and presenting the findings in both oral and written form. Students will also be involved in critiquing scientific journal articles that make use of these methods.
Prerequisites: ([PHM1690L or equivalent] & PHD 1420L) or consent of instructor

PH 1424L *Social Justice and Public Health*
3 credits
With people from multiple historically oppressed and marginalized groups as the focal point, this seminar examines how multiple social identities, including race/ethnicity; gender, sexual orientation, SES, and disability, intersect at the micro level of individual experience to reflect interlocking systems of privilege and oppression (i.e., racism, sexism, heterosexism, classism) at the macro social-structural level and produce disparate health outcomes. Discussion will center around theory and research from Disability studies, feminism, and Critical Race Praxis (PHCRP) to promote an understanding of how multiple identities and analytical categories intersect to create health disparities that require multifaceted policy and intervention approaches that address the ways that all facets of an individual's and community's identity intersect with social discrimination and in turn affect their health. The course explores local and global controversies and examines strategies to address them including community mobilization, coalition building, community-based participatory research, and community-level advocacy. Students will learn about action-oriented research methods, especially collecting digital storytelling narratives, which may be used to address social and environmental injustices and public health inequities. The course is designed to provide students with theoretical principles, methods, and skills essential to effectively work with communities.
Prerequisites: PHD 1118L or PHM 5015L

PHD 1431 *Tools and Methods for Systematic Review*
2 credits
This course is designed to introduce students to best practices, resources, and methods for systematic reviews, and to guide students through the steps of a protocol. The course uses examples from a wide variety of protocols and completed reviews as well as exercises and readings. Course resources and materials are available throughout the semester to assist students in applying them to an Integrative Learning Experience or dissertation. Students who expect to continue with their own reviews and to receive further support should enroll in independent study with the instructor.
Prerequisites: Must be a doctoral student

PH 1433 *Research Seminar in Health Promotion and Behavioral Sciences*
1 credit
This research seminar aims to enhance students' understanding of the field of health promotion and behavioral sciences via exploration of a range of research topics and methods presented by the UTHealth School of Public Health – Health

Promotion and Behavioral Sciences (HPBS) faculty. Faculty will present planned, ongoing, and completed research that covers a range of health promotion and behavioral science topics, and students will have the opportunity to critically discuss and reflect on current topics, methods, and theories based on these projects as well as supplemental readings. All students in the Department of HPBS must enroll for this departmental research seminar at least one semester during their degree program. It is strongly recommended that students enroll early in their coursework in order to learn more about the kinds of health promotion research engaged in by the faculty at UTHealth School of Public Health and neighboring institutions.

PHD 1435 *Health Promotion/Behavioral Sciences Doctoral/Post-doctoral Research Seminar*
2 credits
This seminar course affords the opportunity for doctoral students and post-doctoral fellows to improve their research skills and increase their scientific productivity in the formulation of research proposals and journal publications and presentations at scientific meetings. Participants present their work-in-progress and act as reviewers for others' work. Students also learn other career skills and the principles of the responsible conduct of research, e.g., making poster presentations, presenting job talks, writing cover letters and teaching philosophy statements, and observing fair practices for authorship and acknowledgement. This course provides opportunities to involve mentors (e.g., advisers, dissertation supervisors, committee members) and to practice mentoring and teaching with other participants. This course is required for HPBS PhD students once after the qualifying exam and may be repeated for credit.
Prerequisites: Doctoral student or post-doctoral fellow or consent of instructor

PHD 1440 *Proposal Writing for Health Promotion and Behavioral Sciences*
3 credits
The purpose of this course is for HPBS doctoral students to accelerate the completion of a well-developed draft of their dissertation proposal. Students will read and engage in class discussions to develop their writing and study approach with attention to the organization of their background research (evidence tables), research plan, content, and clarity of writing. In addition to drafting their own proposal, students will provide peer reviews of other students' work.
Prerequisites: Doctoral students in HP/BS (DrPH or PhD) who have successfully completed preliminary exams and have identified a dissertation chair. Prior to the beginning of the course, the instructors expect the student to submit a draft of at least two specific aims and data source(s) with their dissertation chair's e-mail approval. The instructors also expect the student to set up regular meetings with their dissertation chair for feedback and guidance on sections of the proposal.

PH 1447 *Technology, Entrepreneurship, and Applied Innovation in Public Health*
1 credit
This seminar class provides the opportunity to extend professional networks while considering career paths 'less travelled.' In a series of engaging personal life stories successful practitioners working at the intersection of public health, technology, and entrepreneurship share 'how-tos' and insights for success in their for-profit start-ups, non-profit 503c, foundations, fortune 500 corporations, venture capital firms, and academic institutions. A common theme is the translation of academic IP to the market place to maximize reach, impact, and sustainability.

PHD 1450 *Dissemination and Implementation Research and Practice*
1 credit
This course introduces students to dissemination and implementation (D&I) theories and methods. In-class lectures and discussions focus on the foundations of D&I science including, terminology, conceptual models and frameworks, measures, and implementation strategies. Student evaluations include participation in class and a D&I plan that addresses a public health problem. This course is for doctoral students only. This is a required course for students seeking a DrPH and an elective for students seeking a PhD. You do not need prior knowledge or experience with D&I research in order to participate in the class.

PHD 1451 *Dissemination and Implementation Research and Practice Part II*
2 credits
This course focuses on dissemination and implementation (D&I) topics that inform research and practice. There will be in-depth coverage of how to apply D&I theories and frameworks, how to select, develop, and tailor implementation strategies, and how to develop an evaluation plan, that includes the examination of implementation outcomes. The course will also cover processes for program adaptation and de-implementation.
Prerequisites: PHD 1450

PHM 1496 *Capstone for HPBS Students*
3 credits
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students will develop, write, and present a proposal for a health promotion intervention. The proposal will be a grant and will focus on the development and evaluation of a proposed theory-based intervention.
Prerequisites: Completed MPH Core & PHM 1111L & PH 1112L* & PHM 1113L* & PHM 1120L* & completed at least 30 semester credit hours the semester before enrolling in capstone & [completed or concurrent enrollment in PH 9997 *Practicum]*
*One of these courses can be taken concurrently with PHM 1496. It is strongly recommended that students take PHM 1120 prior to enrolling in the course, but it can be taken concurrently if needed

PHM 1496L *Capstone for HPBS Students: Seed-to-Plate Prevention, Pt.1 (section 850)*
2 credits
PHM 1496L *Capstone for HPBS Students: Seed-to-Plate Prevention, Pt.2 (section 800)*
1 credit
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students produce at least one high-quality written product.
Prerequisites: Must be a dietetic intern & completed the MPH Core & completed at least 30 semester credit hours the semester before enrolling in capstone & [completed or concurrent enrollment in PH 9997 Practicum or consent of instructor]

PH 1498 *Special Topics in Health Promotion and Behavioral Sciences*
Credit hours vary among Special Topics courses.
Special Topics vary each semester and provide in-depth study of HPBS faculty research.

PH 1499 *Independent Study in Health Promotion and Behavioral Sciences*
1-9 credits
A plan of study is determined for each participating student and supervised by a member of the HPBS faculty. This course may be repeated for credit. All independent study courses are required to have learning objectives and an outline of learning activities.

Biostatistics and Data Science Courses

PH 1624L *Introduction to SAS Data Management*
3 credits
This course covers reading ASCII files using various formats qualifiers, using DROP and KEEP statements, merging files, writing subsets of files, sorting, labeling variables, calculating date intervals, and using the LAG function. Minimal statistical processing, such as t tests and chi-squares, will also be introduced. Students are given several small coding assignments that are due approximately one (1) week later. To complete the assignments, students must have access to a computer on which SAS is installed.

PHM 1690L *Introduction to Biostatistics in Public Health*
4 credits
This course is designed as the first biostatistics course for students who have not previously taken a course in biostatistics; it is a designated core course for MPH students. Students will learn how to analyze quantitative data using appropriate biostatistical methods and software and interpret analysis results for a given public health context.

PH 1700L *Intermediate Biostatistics*
3 credits
This course is required for students minoring in Biostatistics and for students in Biostatistics who have not previously taken biostatistics courses. This course extends the topics covered in Foundations of Biostatistics to provide a deeper foundation for data analysis, and includes some coverage of the mathematical underpinnings of biostatistics. However, the main focus of the course is the application of biostatistics to research problems of public health and the biological sciences. Computer applications are included.

Prerequisites: PHM 1690L or equivalent knowledge/training

PH 1745L *Sampling Techniques*
3 credits
This course introduces the principles and current practices of survey sampling with health-related applications. Topics include basic concepts and practical issues in statistical sampling; design and analysis for common sample designs: including simple random sampling, stratified random sampling, systematic sampling, cluster sampling, and multistage sampling; variance estimation techniques, and how to estimate the sampling weights. Statistical methods using national, and local complex surveys from descriptive statistics to linear and logistic regression with sampling weights are presented, such as the National Health and Nutrition Examination Survey (NHANES) or the Population Assessment of Tobacco and Health (PATH) Study, among others.
Prerequisites: PH 1700L or consent of instructor

PH 1820L *Applied Linear Regression*
3 credits
The course emphasizes the design, implementation, analysis, and reporting of research investigations. Topics include two-sample inference using t-distributions, robustness and resistance, alternatives to the t-test based analyses, comparisons among several samples, linear combinations and multiple comparisons, simple and multiple linear regression methods, regression diagnostics, variable selection, and related methods. The course requires intensive computer analyses of case studies, emphasizing graphics and proper use and interpretation of statistical software packages using Stata as a model statistical software package.
Prerequisites: PH 1700L or consent of instructor

PH 1821L *Applied Multivariate Analysis for Biostatistics*
3 credits
This course is a continuation of PH 1820L. Topics include the analysis of variance for two-way classifications, factorial arrangements and blocking designs, analysis of repeated measures and other multivariate responses, exploratory tools for summarizing multivariate responses, logistic methods for binary response variables and binomial counts, and log-linear regression for Poisson counts.
Prerequisites: [PH 1820L or consent of instructor] & linear algebra

PH 1830L *Categorical Data Analysis*
3 credits
This course presents the theory and applications of categorical data analysis. Topics include contingency tables, applied generalized linear models, logistic regression model, sampling methods, model building strategies, assessing model fit, conditional logistic regression for matched analyses, polychotomous logistic regression, and Poisson regression.
Prerequisites: [PH 1700L & calculus] or consent of instructor

PH 1831L *Survival Analysis*
3 credits
This course presents the theory and applications of survival analysis. Topics include censoring, parametric and nonparametric models, hypothesis testing, proportional hazards model with fixed and time-varying covariates, model building strategies, and assessing model fit.
Prerequisites: (Calculus & [PH 1830L (preferred) or PH 1820L]) or consent of instructor

PH 1835L *Statistical Methodology in Clinical Trials*
3 credits
This course covers the use of current statistical methodology in the design, execution, and analysis of clinical trials. Some of the topics include basic study design, randomization, sample size issues, data analysis issues, and interim monitoring.
Prerequisites: [PH 1700L & calculus & PH 1831L] or consent of instructor

PHD 1838 *Communication, Collaboration and Leadership for Biostatisticians and Data Scientists*
3 credits

The objectives of this course are to enable the students to: 1). Understand the role of statisticians and data scientists in a large multidisciplinary team; 2). Effectively analyze and assess different communication modes for efficient communications; 3). Apply effective presentation and communication skills to communicate statistical concepts and ideas with different types of audiences; 4). Apply scientific writing skills in preparing and writing data analysis plan, data analysis report, grant proposals and manuscripts for publications; 5). Understand the differences and prepare to play a leadership role under different job environments in academia, research institutions, industries and governments.

PH 1840L *Statistical Methods for Handling Missing Data*
3 credits
This course covers the use of current statistical methodology for handling missing data in health research studies. Primary emphasis will be given to population-based studies using surveys and secondary emphasis will be given to clinical-based studies, e.g. clinical trials, where dropout is commonly present. Some of the topics include missing data patterns, single imputation methods, estimation of imputation uncertainty, likelihood-based methods, multiple imputation, selection models, pattern-mixture models, shared-parameter models, and sensitivity analysis.
Prerequisites: PH 1700L or consent of instructor

PHD 1855L *Distribution-Free Methods*
3 credits
This doctoral-level course introduces the theory and applications of distribution-free (non-parametric) statistical methods. Topics include properties of distribution functions, K-S tests, runs tests, rank sum tests, non-parametric analysis of variance, rank correlation, contingency table analysis, and distribution-free confidence intervals.
Prerequisites: PH 1700L

PHD 1861 *Introduction to Meta-Analysis*
1 credit
This is an intensive introductory course and the 3rd section of PHD 1431. The full 3 credit course is designed to introduce students to best practices, resources, and methods for systematic reviews and meta-analyses, and to guide students through the steps of a systematic review. STATA will be used throughout the meta-analysis course. This course meets on an intensive schedule for 2 weeks of the 6 weeks that is a part of the PHD 1431 course. If you will be taking both courses, you must register for both courses separately.

PH 1910L *Probability and Distribution Theory*
3 credits
This course covers probability theory, distributions of discrete and continuous random variables, mathematical expectation, moments and moment generating functions, distribution of transformed variables, limiting distributions, and estimation. Theoretical results are applied to selected research problems in public health and the biomedical sciences.
Prerequisites: Working knowledge of differential and integral calculus

PH 1911L *Statistical Inference*
3 credits
This course is a continuation of PH 1910L. Topics include statistical hypothesis tests, LR tests, Bayes tests, noncentral distribution and power, selected non-parametric tests, sufficiency, completeness, exponential family, and the multivariate normal distribution. Theoretical results are applied to research problems in public health and biomedical sciences.
Prerequisites: PH 1910L or consent of instructor

PHD 1912L *Large Sample Theory*
3 credits
Large sample theory constitutes a coherent body of concepts and results that are central to both theoretical and applied statistics, and underlies much of the work on fundamental biostatistical topics such as likelihood ratio tests and bootstrapping. The course will start from the introduction to real analysis including limits and order, and basic probabilistic tools. The fundamental large-sample theory most relevant to biostatistical applications will then be taught, including convergence and large sample tests.
Prerequisites: Calculus & Linear Algebra & PH 1910L & PH 1911L

PHD 1915L *Linear Models I*

3 credits

This doctoral-level course introduces the fundamentals of linear statistical models for students with preparation in statistical theory and methods. Using matrix algebra, distributions of quadratic forms are presented and used to develop the general linear model for multi-factor data. Topics include estimation and hypothesis testing in the full rank model, estimability, and statistical inference in the less than full rank model. Theory and computation are emphasized.
Prerequisites: PH 1911L or consent of instructor

PH 1916L *Generalized Linear Models*
3 credits

This course focuses on methods for generalized linear models (GLMs), not on the use of software for data analysis with GLMs. Emphasis will be placed on statistical modeling, building from standard normal linear models, extending to and going beyond GLMs, and going beyond GLMs. The main subject areas are logit models for nominal and ordinal data, log-linear models, models for repeated categorical data, generalized linear mixed models and other mixture models for categorical data. Methods of maximum likelihood, weighted least squares, and generalized estimating equations will be used for estimation and inference. The course focus will be on theory, but examples of application will also be presented.
Prerequisites: PH 1910L & PH 1911L

PHD 1918L *Statistical Methods in Correlated Outcome Data*
3 credits

This doctoral-level course presents extensions of general and generalized linear models to correlated outcome data. Such models arise from hierarchical designs such as longitudinal studies or sample surveys. Major topics include mixed linear models for continuous, binomial, and count data; maximum likelihood estimation; generalized estimating equations; REML, EM algorithm; current general and specialized software applicable to these methods; and readings from current statistical literature. This course is intended for students with a background in linear models.
Prerequisites: PH 1916L or consent of instructor

PHD 1930L *Statistical Computing*
3 credits

This doctoral-level course consists of two parts. Part 1 covers programming and other computer skills required for the research and application of statistical methods. The focus will be on programming in the R language. Other computing topics covered are Unix/Linux, Emacs, LaTeX, R graphics, culling C code from R, writing R package, running simulation in statistical research, using high-performance computing cluster, and best coding practices. Part 2 covers the theory and application of common algorithms used in statistical computing. Topics include root finding algorithms, optimization algorithms, numerical integration methods, EM algorithm, importance sampling, rejection sampling, Gibbs sampling, Markov chain Monte Carlo (MCMC), bootstrapping, jackknife, and permutation test.

PHD 1950L *Stochastic Processes in Biostatistics I*
3 credits

This doctoral-level course covers the application of stochastic processes to problems in the biological and health sciences. Topics include discrete-time Markov chains; discrete-time branching processes; random walks; estimation of parameters in discrete-time Markov chains with complete or partially observed data; test of the Markov property and test of stationarity; time-reversible Markov chains; basic theory of Markov chains; Monte Carlo methods and its applications; and Poisson processes. Recent developments in related areas and their applications will be explored. Basic statistical theory, especially the estimation methods and EM algorithm, will be reviewed.
Prerequisites: PH 1911L and a thorough knowledge of calculus

PHD 1951L *Stochastic Processes in Biostatistics II*
3 credits

This course is a continuation of PHD 1950L. This course briefly reviews differential equations and partial differential equations, but it mainly covers several models of continuous-time Markov processes that include the Poisson process, the Yule process, the birth-and-death process, the epidemic process, the queuing process, the illness-death process, and other stochastic models in public health. Statistical inference for some of these models will also be explored. The appropriate data using these models will be analyzed. Applications of counting processes and the concept of Martingale theory to other statistical methods including survival analysis will be introduced. Brownian motion will be briefly discussed. Prerequisites: PHD 1950L or consent of instructor

PH 1961 *Spatial-Temporal Analysis for Population Health Data*
3 credits
This course is designed for students who are interested in analyzing spatial-temporal data, including disease surveillance and environmental health data. Main topics include research ethics, study design, databases for spatial-temporal population health data, data retrieving and processing with R programming (e.g., retrieving US Census data and geocoding in R), exploratory data analysis, data visualization with R and modeling for spatial-temporal data. The course will also introduce a variety of statistical methods (e.g. spatial-temporal disease mapping models) for point-level and area-level population data, and focus on application and interpretation.
Prerequisites: [Applied linear regression at the level of PH 1820 or equivalent] & working knowledge of R programming

PHD 1965L *Bayesian Data Analysis*
3 credits
This doctoral-level course examines basic aspects of the Bayesian paradigm including Bayes theorem; decision theory; general principles (likelihood, exchangeability, de Finetti's theorem); prior distributions (conjugate, non-conjugate, reference); single-parameter models (binomial, Poisson, normal); multi-parameter models (normal, multinomial, linear regression, general linear model, hierarchical regression); inference (exact, normal approximations, non-normal iterative approximations); computation (Monte Carlo, convergence diagnostics); and model diagnostics (Bayes factors, posterior predictive checks).

PH 1975L *Introduction to Data Science*
3 credits
This course covers the basics of algorithms, programming in Python, relational and modern NoSQL database systems, data management, analytical databases and data warehouses, big data systems and computing, data collection and statistical processing methods, statistical learning and inference, statistical data exploration and analysis, machine learning, data visualization, communication in data science.
Prerequisites: PHM 1690L & basic knowledge of computer programming.

PH 1976L *Fundamentals of Data Analytics and Predictions*
3 credits
This course introduces modern statistical methods and computational algorithms and tools for big data analysis including descriptive statistics, sampling technique, regression learning, clustering, and classification (e.g., support vector machine, tree-based methods). Students will be introduced to the basic concepts behind data science. Hands-on sessions will familiarize students with the details and use of the most commonly used online tools and resources.
Prerequisites: [PH 1700L or the equivalent] & [PHW 2783 or PH 1998L ST: *Introduction to Statistical and Data Science Programing*] & [calculus, linear algebra, basic statistical theory and convex optimization methods at the introductory level]

PH 1977L *Data Science Computing*
3 credits
This course is about principles, programming, infrastructures, and tools for computing and data management in data science to facilitate statistical analysis and make it efficient for population health. Its topics include efficient algorithm design and analysis, parallel and distributed programming in Python, relational databases and data warehouses, NoSQL databases, Apache Spark infrastructure and data science tools for management of and statistical inference on structured and unstructured data.
Prerequisites: PH 1975L or equivalent knowledge or training

PH 1978L *Machine Learning in Practice*
3 credits
This course is covers advanced data analysis and prediction techniques and tools with applications.
Prerequisites: PH 1976L & Python programming skills

PH 1982L *Evolution of DNA and Protein Sequences*
3 credits
This course provides basic principles for understanding factors that govern the evolution of DNA and protein sequences. Students will be provided with the opportunity to learn about the formation and evolution of multigene families and

other evolutionary phenomena. They will also be introduced to statistical methods and computer programs for analyzing DNA and protein sequence data. There will be computer demonstrations of some topics. The application of these principles and methods to genome-wide epidemiology will be discussed. [Cross-listed with GSBS GS110103]
Prerequisites: Calculus & statistics & consent of instructor

PH 1984L *Population Genetics*
3 credits
This is an intermediate level course in the area of statistical genetics/computational biology. It is designed to help students to understand the fundamentals of theoretical population genetics and to be able to apply such knowledge in analyzing samples of DNA sequences from a population. Students will learn to understand allele/genotypic frequencies and how they are affected by various evolutionary forces, including mating pattern, mutation, random genetic drift, linkage, natural selection and population subdivision/migration. Special emphasis is on the coalescent theory and statistical properties of some fundamental summary statistics, as well as their application. [Cross-listed with GS11 1123]
Prerequisites: Some background in genetics and statistics & consent of instructor

PH 1986 *Introduction to Statistical Genetics and Bioinformatics*
3 credits
This course is designed to enable the student to understand the interplay between statistics and genetics. Specifically, by the end of the course, students should be able to: (1) describe the fundamental principles and theory in some areas of genetics in which statistics plays an important role; (2) apply some widely used statistical methods and approaches to solve specific genetic questions; and (3) be prepared for advanced courses in the area of statistical genetics. This course has been revamped in 2021 to merge the course "Introduction to Statistics Genetics" and "Introduction to Genomics and Bioinformatics". [Cross-listed with GSBS GS11 1113]

PH 1988 *Biostatistics Seminar*
1 credit
The seminar in biostatistics consists of presentations from guest speakers and some students who are working on doctoral dissertation research. It will provide an overview of various topics of current importance in the field of biostatistics and public health while emphasizing the mathematical and statistical tools needed to address these issues.

PH 1992 *Big Data in Practice – EHR Data Processing and Analytics*
3 credits
In this Big Data era, it is necessary to train our students to have creative thinking and problem-solving skills in dealing with complex real-world Big Data, in addition to solid statistical foundations. In this course, will provide a new perspective for Big Data issues and potential solutions to Big Data problems. In addition to Big Data analytic methods, we also introduce soft skills such as communication and collaboration skills in a multidisciplinary Big Data team environment. Electronic Health Record (EHR) Big Data projects will be used as examples for hands-on practice.
Prerequisite: PH 1975L & PH 1976L

PHD 1995 *Research Practice Experience for Biostatistics Students*
3 credits
A research practice experience is a unique learning experience that a student pursuing a PhD in Biostatistics must acquire outside the classroom. This opportunity allows students to apply classroom education towards a real-world public health work setting.
Prerequisite: Must be a PhD Biostatistics student, successful completion of the Biostatistics and Data Science Preliminary Exam.

PHM 1996 *Capstone for BIOS Students*
3 credits
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students produce at least one high-quality written product.
Prerequisites: Students must be a MPH in Biostatistics major & completed the MPH core courses & completed at least 30 semester credit hours the semester before enrolling & completed or concurrent enrollment in **PH 9997** *Practicum*.

PHD 1997 *A Teaching and Learning Experience for Doctoral Students in Biostatistics*

1 credit

This doctoral-level course provides doctoral students in Biostatistics with an overview of the application of teaching methods in biostatistics. The objectives for this class are: (1) Apply teaching methods learned in the course, for example, through presentations on modern statistical topics, and/or via their role as teaching assistants (TAs) in Biostatistics courses; (2) Develop group leadership and teaching skills; and (3) Monitor and improve presentation skills. The student will receive instruction and feedback on their group leadership and teaching skills from faculty. Students will discuss the problem-based learning case studies based on examples provided and on their own teaching experiences. This is a required course for all PhD students in Biostatistics.

PH 1998 *Special Topics in Biostatistics*
Credit hours vary among Special Topics courses
Special Topics courses vary each semester and provide coverage of biostatistical theory and applications.

PH 1999 *Independent Study in Biostatistics*
1-9 credits
A plan of study is determined for each participating student, and supervised by a member of the Biostatistics faculty. In general, courses of independent study are not recommended unless a student has completed the appropriate introductory courses in biostatistics or presents evidence of experience in the field of biostatistics. This course may be repeated for credit. All independent study courses are required to have learning objectives and an outline of learning activities.

Environmental and Occupational Health Sciences Courses

PHD 2105L *Environmental and Occupational Health Sciences Doctoral Seminar*
1 credit
This seminar course is designed for doctoral students and post-doctoral fellows in EOHS. Doctoral students in other departments and programs may enroll with the consent of the instructors. The course combines research seminar presentations with specific assignments to provide students an opportunity to improve their knowledge of the latest EOHS topics, their presentation skills, and their scientific productivity in the formulation of research proposals and journal publications and presentations at scientific meetings. The seminar provides opportunities to involve mentors (advisors, dissertation supervisors, committee members) and to practice mentoring and teaching with other class members.

PHWD 2106L *Introduction to Doctoral Research Methods in Environmental and Occupational Health Sciences*
2 credits
This course provides doctoral students with a background in the perspectives, key concepts, and methods involved in conducting research and evaluating scientific claims in the EOHS context, part of the necessary training to undertake a future research project. The course considers basic aspects and challenges of the philosophy of science and the inference of causality; ethical issues on conducting research; study design and sampling methods; the role of statistics; and the appropriateness of the measures of association, including hypothesis formulation and testing; and presentation of findings. Students are also introduced to the scientific production process.

PHWD 2108L *Applied Epidemiological Analysis*
3 credits
The course gives doctoral students experience in developing skills and designing strategies to plan the analysis of and critically evaluate epidemiological data from occupational and environmental settings. The goal of the course is to prepare students to integrate their knowledge of epidemiology and biostatistics through applied data analysis in the context of occupational and environmental problems.

PHWM 2110L *Public Health Ecology & the Human Environment*
3 credits
This course provides an introductory overview of the basic principles underpinning public health ecology and environmental health. It satisfies the core environmental health MPH requirement for majors and non-majors. Students are provided with foundational knowledge in public health ecology, principles or environmental health and an introduction to environmental policies & controls. Applications of this knowledge will be applied to an environmental case study, wherein students will use a systems thinking approach to identify the key elements of the problem, develop

solutions and articulate a dissemination plan. In addition, inter-professional engagement simulations will be used to provide students with skills for engaging stakeholders, including community members, policy makers/enforcers, and other healthcare professionals.

PHW 2120 *Climate Change & Health – Human Impact on the Environment*
3 credits
This course provides a general awareness of how the man-made and natural ecosystem interact to affect health and the quality of life, reviews relevant principles from the natural sciences, and discusses issues influencing the solutions to environmental health problems. The course content will focus on the impact of climate change on human health. The intersection between environmental degradation and climate change and adverse human health outcomes will be examined. The course objectives will be accomplished through lectures, videos, class discussions, group activities, written assignments, and examinations.

PH 2126 *Fundamentals and Applications of GIS*
3 credits
This course teaches basic concepts of GIS and common methods of spatial analysis that are critical for understanding where health events happen (e.g., Snow's cholera map) and important across all components of public health, including environmental sciences, epidemiology, health planning and policy, health promotion, and international health. The course objectives will be accomplished through a combination of lectures, hands-on labs, and student projects.

PH 2132L *Infection Control and Biosafety*
3 credits
The field of infectious disease and control is mainly composed of four professions: infection preventionists, biosafety professionals, environmental health specialists, and public health professionals. Although the targeted populations for each of these professions differ, a common set of core competencies exists that are essential in order to successfully prevent or control infection. This course focuses on the core competencies that are common amongst all of these professions and will also discuss differences between these trades.
Prerequisites: Undergraduate biology required. A course in microbiology preferred.

PHM 2135L *Risk Analysis: Principles and Practice*
3 credits
PHD 2135L *Risk Analysis: Principles and Practice*
3 credits
The purpose of this course is to provide students with the principles of risk assessment for environmental and occupational health hazards. This course introduces important components in risk assessment including hazard identification, exposure assessment, dose-response assessment, and risk characterization. Materials of risk management and risk communication are also covered. Case studies are used to demonstrate important principles and practices of risk analysis.

PHW 2150 *Air Environment*
3 credits
This course provides a comprehensive introduction of air pollution with a focus on its effects on human health. It covers a variety of topics related to air quality, including fundamental principles, measurements and control, exposure and risk assessment, epidemiology, energy and air quality, environmental justice, and regulations. Both outdoor ambient air and (non-occupational) indoor air quality are considered. Special emphasis is placed on human health effects and the determinants of human exposure.

PHM 2155 *Environmental Sampling and Analysis*
4 credits Lab fee: $10.00 for PHM 2155 only.
PHD 2155 *Environmental Sampling and Analysis*
4 credits
This course covers the theoretical bases and practical applications of sampling techniques and analytical methods used in the identification of hazards in the environment. Students will plan environmental sampling design, develop sampling strategies, interpret and communicate generated results, and critique data related to environmental studies.
Prerequisites: [Undergraduate chemistry & undergraduate mathematics] or consent of instructor

PH 2175L *Toxicology I: Principles of Toxicology*
3 credits
This course presents basic principles of toxicology and their applications to the understanding of xenobiotic-induced target organ toxicity. Topics covered include toxicant disposition, mechanisms of toxicity, and target organ responses to toxic agents. A broad overview of various classes of toxic agents will be presented in the context of their exposure routes, disposition, toxicologic sequelae, and mechanisms of toxicity. This course is designed to provide a foundation for understanding the complex interactions between toxicants and biologic systems.
Prerequisites: Prior biological science coursework required (i.e., biology, chemistry, or physiology) and consent of instructor

PH 2177 *Toxicology II: Toxic Agents and the Environment*
3 credits
This course provides in-class discussions, based on guided readings, on current topics in toxicology. The discussions include the historical context for our understanding of toxicant-induced adverse health effects. Class activities will be based on discussions of books designed for the lay public and the scientific literature on which these books are based. Principle mechanisms of toxicity as they relate to the understanding of environmentally induced disease form the framework for the course. In-depth reviews of various classes of environmental contaminants and their adverse health effects will be presented.
Prerequisites: PH 2175L (preferred) or consent of instructor

PH 2205L *Health and Safety Program Management and Leadership*
3 credits
This course introduces students to "real–world" challenges related to the management of occupational health and safety programs. Students will be equipped with the knowledge and skills needed to effectively manage a successful health and safety program. This course is a practical introduction to occupational health and safety program management for field practitioners with interest in related disciplines (e.g., industrial hygiene, ergonomics, occupational epidemiology, safety engineering). It draws on concepts from strategic, quality, and accounting management; sociology; political science; and behavioral sciences. Using "real-world" health-and safety-based examples, students will be challenged to apply the concepts presented in class to real-world scenarios.

PHWM 2230L *Water Environment*
3 credits
PHWD 2230L *Water Environment*
4 credits
This course provides students with an overview of the ecological, cultural, and human health significance of water. Students will learn through a combination of lectures, class discussions, and case studies. Issues of water quantity and quality, sustainability, chemical and biological contaminants, water treatment, and conservation practices will be covered. Current water regulations, underlying risk assessments, and related health issues for selected contaminants will be presented. Doctoral students will select a water-related health issue and complete a project describing its importance to public health, identify any gaps in current knowledge and policy, and predict future impacts on environmental science and/or public health.

PH 2241L *Fundamentals of Occupational Safety*
3 credits
This course is designed as a practical introduction to occupational safety for practitioners with interest in related disciplines (e.g. industrial hygiene, ergonomics, occupational epidemiology, safety engineering). The course will focus on hazard recognition, assessment of accident potential, and hazard control. Students will be introduced to the evolution of the safety profession and will be presented with a variety of laws, regulations, codes and standards, and other occupational safety and accident prevention information.

PH 2245 *Fundamentals of Industrial Hygiene*
4 credits
This course introduces students to concepts of industrial hygiene and occupational health hazards. Typical industrial conditions that may produce work-related disorders and diseases are studied. Major chemical, physical, and biological

stresses in the industrial environment are presented, and important sources, effects, and evaluation and control measures are discussed. Where appropriate, typical calculation methods are included.
Prerequisites: Undergraduate biology & undergraduate chemistry (organic chemistry preferred) & undergraduate mathematics

PH 2246L *Principles of Occupational Ergonomics*
3 credits
This course is designed to introduce students to the principles of ergonomics with a focus on the physiological and anatomical capabilities of the worker and interaction with their environment. The course will review anthropometry, physiological basis of work, occupational musculoskeletal disorders and risk factors, workplace and equipment design, environment, job analysis, and elements of the ergonomics process to improve job design.

PH 2250 *Occupational Health Controls*
4 credits
This course presents the principles and practice of controlling workplace and associated hazards, and details CPC, respiratory protection, dilution, and local exhaust ventilation engineering controls: basic design and evaluation of industrial ventilation systems, and noise control.
Prerequisites: [PHWM 2110L & PH 2245] or consent of instructor

PH 2255 *Clinical Occupational Medicine*
4 credits
This course offers students the opportunity to familiarize themselves with the clinical practice of and current issues in occupational medicine, supplements their basic knowledge in the clinical presentations of occupational illness and injury by organ systems, and introduces them to systematic approaches to the evaluation and management of work-related injury and illness. The course is designed for students interested in occupational medicine practice and who have taken at least one college-level biology course.

PHW 2256 *Occupational Health Psychology*
2 credits
This course provides an introductory overview of the basic theories, principles and topics encompassed in the field of occupational health psychology, at both the individual worker and worker population levels.

PH 2260 *Occupational Health Field Trips*
3 credits
This course takes students into approximately six industrial and occupational settings, with analysis of processes and potential worker health hazards involved. This course aims to introduce students to basic industrial processes and delivery of occupational health services through plant visits; to enable students to perform simple walk-through evaluations of plant facilities and to provide written reports on these evaluations in order to identify potential workplace hazards and evaluate their level of control; and to help students appreciate the importance of using an integrated interdisciplinary approach in the anticipation, evaluation, and control of workplace hazards.
Prerequisites: PH 2245 or consent of instructor

PH 2265 *Occupational Medicine Practice*
2 credits
This seminar-style course presents topics of current interest in the practice of occupational medicine. In this course, both faculty and students prepare and discuss topics. Topics vary from year-to-year and semester-to-semester, and include didactic presentations by students, faculty, or invited speakers; field visits to selected worksites; board certification review sessions; and an annual in-service practice examination to assist in preparation for the American Board of Preventive Medicine certification examination.

PH 2270L *Total Worker Health and Worker Well-being*
2 credits
Total Worker Health® (TWH) involved the policies, programs and practices integrating protection from work-related safety and health hazards with promotion of injury and illness prevention to enhance worker well-being. The terminology, concepts and conceptual frameworks surrounding the field of THW and worker well-being are introduced along with

resources for planning, implementing and evaluating interventions. Students evaluate the effectiveness of TWH interventions in all size businesses and explore potential modifiers of occupational factors influencing worker well-being.

PHD 2271 *Total Worker Health Field Trips*
3 credits
Total Worker Health (TWH) PhD degree track students work with an industry/occupational preceptor on a worker well-being project for one semester. Students work on the project at the facility. Projects require application of the theories and principles of total worker health to a real-world situation. The course is offered to students in campuses where the PhD in Environmental Sciences, TWH track is offered.
Prerequisites: PH 2205L & PH 2270L & PH 2241L & PH 2245 & PHW 2256 & PHD 1113L & PHWD 1120L & (PHD 1118L or PHD 1123L)

PH 2280L *Environmental Microbiology*
3 credits
This course introduces to environmental microbiology, with particular emphases on how microorganisms are transmitted to humans as well as ways to identify and prevent this transmission. Topics include microbial sources of contamination; environmental sampling and laboratory techniques; preventive strategies for air-, water-, and food-borne disease; global issues impacting microbial disease; and the roles of epidemiology and risk assessment in addressing human exposure to environmental microbes.

PH 2290L *Immunology*
3 credits
This course covers the essential concepts of the human immune response and their relevance to disease control and prevention. There will be presentations from guest lecturers who have expertise in specific areas where the principles of immunology find their application to human health. Throughout the course, extra emphasis is placed on aspects of immunology with particular relevance to public health, such as immunodeficiency, blood transfusion, nutrition and immunology, tumor immunology, and vaccines. Each student will prepare a report on an area of immunology that is of particular interest to them.
Prerequisites: Basic background in biology

PHW 2491 *Public Health Preparedness & Disaster Response*
3 credits
PHW 2991 *Public Health Preparedness & Disaster Response*
3 credits
This course provides an overview of the emergency response system and the public health system responsibilities in management of disasters with a special emphasis on planning and response. The course format is an interactive graduate level electronic seminar. Website resources are identified for students to obtain basic background information regarding disaster preparedness, emergency response systems, and emergency plans.
Prerequisites: PHM 1110L & PHM 1690L & PHWM 2110L & PHM 3715L & PHM 5015L

PHWM 2496 *Capstone for EOHS Students*
3 credits
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students produce at least one high-quality written product.
Prerequisites: Completed MPH core courses & [concurrent enrollment in or completed: PH 2175L & PHM 2135L] & completed at least 30 semester credit hours the semester before enrolling in capstone & completed or concurrent enrollment in **PH 9997** *Practicum*.

PH 2498 *Special Topics in Environmental and Occupational Health Sciences*
Credit hours vary among Special Topics courses
Topics vary each semester to provide intensive study of selected environmental factors, or specific methods of analysis, evaluation, or control.

PH 2499 *Independent Study in Environmental and Occupational Health Sciences*
1-9 credits

A plan of study is determined for each participating student, and supervised by a member of the EOHS faculty. All independent study courses are required to have learning objectives and an outline of learning activities. This course may be repeated for credit.

Epidemiology Courses

PHM 2612L *Epidemiology I*
3 credits
This course provides a strong foundation in concepts, principles, and methods specific to epidemiology. By the end of this course, students should be able to apply these skills to (a) assess the health of a population; (b) describe the natural history, distribution, and determinants of health-related states and events; and (c) evaluate programs designed to improve public health. To accomplish this, the course considers epidemiology in the context of core public health functions and services.

PH 2615L *Epidemiology II*
3 credits
This course focuses on the principles and activities necessary to carry out information collection that is implemented and managed in an ethical manner consistent with the principles of the scientific method. This course addresses practical aspects of epidemiologic research. Systems theory, epidemiologic methods, principles of survey research, operations research methods, and computer uses in research are covered. The final product from the class is the development of an epidemiologic field "Manual of Procedures" for a study.
PH 2615L *Epidemiology II* and PH 2710L *Epidemiology III* can be taken interchangeably.
Prerequisites: [PHM 2612L or PHM 2610 or equivalent] & [PH 1700L or PHM 1690L]

PH 2710L *Epidemiology III*
3 credits
This course covers advanced concepts in epidemiologic methods with an emphasis on observational studies. Topics include causal inference, measures of disease frequency, measures of association, study design, precision and validity in epidemiologic studies, introduction to stratified and logistic regression analysis, concepts assessing effect modification and confounding, interpretation of epidemiologic study results, and manuscript development. PH 2615L *Epidemiology II* and PH 2710L *Epidemiology III* can be taken interchangeably.
Prerequisites: [PHM 2612L or PHM 2610] & [PHM 1690L & (PH 1700L or equivalent)]

PHD 2711L *Epidemiology IV*
3 credits
This course prepares students to use and make reasonable inferences regarding causality from epidemiologic data analyses. Students address research questions using data from a variety of study designs. Students acquire hands-on experience with stratified analysis, logistic regression, and survival analysis. Other learning activities cover meta-analysis, advanced issues in assessment of confounding and effect measure modification, strategies for building multivariable models, and sensitivity analysis.
Prerequisites: [PH 2615L & PH 2710L & PH 1700L & enrolled in SPH doctoral program] or consent of Instructor

PHD 2712L *Experimental Methods in Epidemiology*
3 credits
This course equips students to evaluate and interpret evidence concerning preventive or therapeutic measures, especially those recommended for public health application. It concerns principles and methods of experimental studies in epidemiology and public health, from simple clinical trials to prevention trials in multiple communities. Applications span diverse areas, including cardiovascular diseases, cancer, and infectious diseases. Students participate actively in a seminar format, critique published reports, and undertake a collaborative project to develop a research protocol for an experimental study.
Prerequisites: PH 2710L or consent of instructor

PHD 2720L *Epidemiology Proposal Development*
3 credits

This course covers the structure and content of a student thesis research proposal, scientific writing conventions, critical evaluation and synthesis of epidemiological literature, development of specific aims and research methods, and procedure for writing and editing research proposals. Doctoral students will also cover NIH grant applications and the NIH grant review process.
Prerequisites: PHD 2711L & PHD 2712L

PH 2725L *Neuroepidemiology*
2 credits
This course provides an overview of the risk factors for a variety of neurologic and neuropsychiatric diseases, including stroke, Alzheimer's disease and other dementias, Parkinson's disease, brain tumors, autism, and mood disorders. Areas covered include a description of the prevalence, incidence, mortality, risk factors, and etiologic mechanisms of these diseases and conditions. Students will gain an understanding of the impact of these diseases on public health; of the unique methodological issues associated with epidemiologic and genetic studies of these diseases; and of the basic pathobiology and clinical aspects of these disorders. The course aims to aid students' comprehension of published literature in neuroepidemiology and neurogenetics.

PH 2730L *Epidemiology and Control of Infectious Diseases*
3 credits
This course introduces epidemiologic aspects of infectious diseases and provides information regarding prevention and control of these diseases. At the end of the course, students have an understanding of the epidemiologic aspects of infectious diseases including incidence, distribution, and pattern of disease occurrence as well as different modes of transmission and associated risk factors. They should understand the importance of surveillance systems in detecting epidemics, the application of epidemiological methods to determine the risk and associated factors, and the significance of prevention and control programs for infectious diseases. Students gain knowledge and skills in carrying out epidemic investigations through a series of case study assignments.
Prerequisites: [PHM 2612L or PHM 2610] or consent of instructor

PH 2735L *Physical Activity and Health: Epidemiology and Mechanisms*
3 credits
This course presents evidence that exercise training and physical activity can prevent disease and increase the quality of life. The course covers heart disease, hypertension, diabetes, obesity, osteoporosis, eating disorders, cancers, immune system, and aging, as well as inter-relationships among and between these conditions. Each section starts with the physiology basis for the disease, and the epidemiologic evidence that exercise training and physical activity will reduce the risk of developing the disease. Then, cross-sectional and longitudinal studies are presented supporting the epidemiological data. Finally, studies are presented that focus on the mechanisms by which exercise and physical activity prevents the development of the disease, and, in some cases, how it can improve the disease state.

PHW 2740L *Cardiovascular Disease Epidemiology and Prevention*
3 credits
This course provides an overview of the field of cardiovascular disease (CVD) epidemiology. Topics include the pathophysiology of CVD, CVD survey methods, trends in CVD mortality and morbidity, CVD risk factors, major strategies for CVD prevention, and a summary of major CVD clinical trials. Students will gain an understanding of the impact of CVD on public health.
Prerequisites: [PHM 2612L or PHM 2610] or consent of instructor

PH 2742L *Epidemiology of Mental Health*
3 credits
This course reviews descriptive and analytic epidemiology for major mental health symptoms and conditions worldwide. Course topics include understanding: functional and societal burden of mental health conditions, psychiatric epidemiology research designs, causality in mental health, cross-societal comparisons, risk factors and protective factors, plus an overview of treatment, health systems, and prevention.
Prerequisites: [PHM 2610 or PHM 2612L or PHD 1420L or PHD 1421L or PHW 3660] or consent of instructor.

PH 2745 *Cancer Epidemiology*
3 credits

This primarily introductory-level course reviews the causes of cancer and the epidemiology of cancer by anatomical site. The course will introduce seminal studies and current issues in cancer epidemiology, and will cover basic concepts pertinent to cancer epidemiology research including biology, pathology, statistics, classic and novel risk factors, prevention, and genetics. Selected publications from epidemiologic literature provide opportunity for student-faculty discussion.

PHW 2750 *Disease: Natural History, Prevention, Control*
3 credits
This course is intended for students who have not had significant training in biology. It will cover common diseases, medical terminology, and the associated scientific and medical literature. The course will consist predominantly of online "lectures," readings, and discussion board participation. Objectives include attaining a basic understanding of the biological basis of health and of disease processes; developing a vocabulary of medical terminology that will enhance the student's ability to read and comprehend public health literature; and developing an understanding of common human diseases and their importance in a public health context. The grade is based on participation, assignments, a mid-term examination, and research project.

PH 2755L *Nutrition Research Methods*
2 credits
This course teaches basic epidemiologic research skills applied to nutrition. Students complete training for UTHealth School of Public Health on-line library databases and the Academy of Nutrition and Dietetics (AND) Evidence Analyses Process (EAP). Students learn to create and score evidence tables using the EAP. Students develop a brief nutrition research proposal with an objective, literature review, methods section, and dummy tables and graphs. Students learn techniques for effective PowerPoint presentations and deliver an oral presentation of their individual project.
Prerequisites: Enrollment in Dietetics Internship or consent of instructor

PHWM 2760L *Occupational Epidemiology*
3 credits
PHWD 2760L *Occupational Epidemiology*
3 credits
This course describes the types and magnitude of workplace injuries and illnesses, which exact a large human and economic toll on adult and child workers in the United States and worldwide (many, if not most, of these adverse health outcomes are preventable); examines the epidemiologic methods used to identify risk factors for these events; and examines the role of academia, industry and public health practice in understanding and controlling these conditions from an epidemiologic perspective. The course is especially targeted as a Special Topics course for epidemiology majors and to provide an epidemiologic and public health perspective to occupational health for occupational health, environmental science and other interested students. Doctoral students will have additional projects.
Prerequisites: [PH 1700L or PHM 1690L] & [PHM 2612L or PHM 2610]

PHM 2762L *Environmental Epidemiology*
3 credits
PHD 2762L *Environmental Epidemiology*
3 credits
This course is designed to introduce students to specific research areas within the field of environmental epidemiology as well as to epidemiologic and exposure assessment methodologies commonly used in the field. The course provides an introduction to selected topics and concepts in environmental epidemiology and will prepare students to critically appraise the environmental epidemiologic literature. Topical areas may include (but are not limited to) air pollutants, persistent organic pollutants, pesticides, metals, environmental disasters, and environmental justice.
Prerequisites: [PH 2610 or PHM 2612L] & PHM 1690L

PHW 2765L *Pediatric Epidemiology*
3 credits
This course describes the public health impact of pediatric conditions and introduces special considerations in the design and conduct of epidemiological studies of pediatric conditions. Resources for pediatric epidemiology and the epidemiology of common chronic pediatric conditions are also covered.
Prerequisites: PHM 2612L

PHW 2767 *Behavioral Pediatric Epidemiology*
3 credits
Course covers 2 public health areas: (A) Epidemiology of 6 leading causes of acute and chronic diseases, including: 1) Tobacco; 2) Alcohol/other drugs; 3 Nutrition; 4) Physical activity; 5) Intentional and unintentional injuries; and 6) HIV, STD, pregnancy. (B) Health promotion strategies to prevent acute and chronic disease. These include methods to increase health-enhancing and decrease health compromising behaviors. Other topics include: 1) Physical, social, cognitive development; 2) Health disparities; 3) Sleep, social media and video games; 4) Effects of climate change on health; and 5) Mental health.
Prerequisites (or co-requisites): PHM 2612L & PHM 1110L

PHW 2775 *Epidemiologic Methods in Racial and Ethnic Disparities*
3 credits
This course provides an overview of health issues related to race and health in modern U.S. society. Special emphasis is given to epidemiologic methods and perspectives in research studies using race/ethnicity; demographic trends; mortality and life expectancy; and social, etiology, biological, and genetic factors associated with health disparities by racial and ethnic group in the United States. This course builds on the previous knowledge on the methodology of analytical and descriptive study designs to understand the advantages and shortcomings of race/ethnicity in epidemiological studies.
Prerequisites: PHM 2612L

PHW 2780L *Genetic Epidemiology*
3 credits
This course introduces statistical methods and software for analyzing measured genetic variation in human studies. The primary focus will be on analytic methods with hands-on use of sample datasets and available software. Students will be refreshed on the genetic and statistical theory underlying current methodologies. Students are recommended to have previous exposure to the principles of genetics and biostatistics.

PH 2781L *Practical Python Programming and Algorithms for Data Analysis*
3 credits
This course is intended for students who are focused on big data analysis in the Python programming language from large scale epidemiologic datasets, electronic medical records, or next generation sequence data. It will cover basic programming including strings, array, dictionaries, conditional statements, data visualization, external data sources, and algorithms with a focus on using programming to solve challenges within the students' own research projects.

PHW 2782L *Practical Computational Genetics and Bioinformatics*
3 credits
This course is designed as a training of necessary computational and bioinformatics skills used in everyday analysis of biological data, especially DNA sequence and polymorphism data. Topics include basic Unix/Linux command line, programming (Python), human sequence/polymorphism databases, and DNA analysis.
Prerequisites: Basic knowledge of genetics and DNA sequence

PHW 2783 *Introduction to R Programming and Data Management*
3 credits
This course aims to provide students with hands-on experience in R programming and data management. The students should be familiar with basic concepts in epidemiology and biostatistics. Previous experience in using SAS, STATA or SPSS is helpful, but not required. Topics include downloading and installing R, basic programming concepts, basic programming best practices, R packages and environments, R data structures, data transfer, creating and manipulating data, visualizing data, conditional operations, working with multiple data frames, restructuring data frames, repeated/iterative operations, writing functions, basic analyses used in epidemiology, and techniques for presenting results to various audiences. Special emphasis will be given to using the Tidyverse family of R packages.

PH 2784L *Introduction to R Analysis for Epidemiologic Research*
3 credits
This course aims to provide students with hands-on experience in R analysis for epidemiologic research. The students should be familiar with basic concepts in epidemiology and biostatistics. Previous experience in using SAS, STATA or SPSS

is helpful, but not required. Topics include R data structure, data management and visualization, loops and conditions, classical statistical tests, functions, packages and environments, sample size and power calculation.
Prerequisites: PHM 1690L & PHM 2612L

PHW 2785L *Laboratory Methods: Applications and Implications to Public Health*
3 credits
This introductory course provides an overview of various methods and techniques utilized in laboratory settings and epidemiologic investigations. Emphasis is placed on laboratory methods that are relevant to the study of public health, such as the techniques utilized in investigating disease outbreaks. This course addresses a unique need and the necessity for public health students to know the basic laboratory methods used in epidemiologic studies. An understanding of the basic concepts of immunology, molecular biology, and/or genetics would be helpful, but is not a prerequisite.

PH 2793 *Current Topics in Infectious Disease Epidemiology*
2 credits
This course is designed as an introduction to the epidemiology of emerging pathogens, their mechanisms of transmission and virulence, and new technologies for surveillance, prevention, and treatment. At the end of the course students will have an understanding of the broad categories of infectious microbes (viruses, bacteria, fungi, and parasites) and the different ways these pathogens transmit and cause disease. Additionally, students will learn the fundamentals of different technologies, including cutting edge 'omics techniques (such as genomics and transcriptomic), used to identify and track these pathogens.
Prerequisites: A previous introductory course in biology, either in high school or undergraduate study

PHW 2795 *Disease Detectives: International Epidemic Investigations*
3 credits
This course presents a series of outbreaks in global settings and asks the student to conduct the investigation as though they were leading it. Information is given in stages, and as the information evolves the student has to work through possible approaches to working out the cause of an outbreak and how to control it. The student has to determine what information is needed, obtain it, determine cause, how to intervene, and finally achieve control.
Prerequisites: PHM 1690L & [PHM 2610 or PHM 2612L] & consent of faculty

PH 2797 *Shoeleather Epidemiology: Essential Skills of Applied Epidemiology*
2 credits
This applied epidemiology seminar brings in speakers from different areas of public health practice to discuss current public health practices.
Prerequisite: PHM 2612L or equivalent

PHM 2800L *Tropical Infectious Diseases*
3 credits
The course is designed as an introductory course in parasitology; a basic background in biology should be sufficient preparation. An understanding of the basic concepts of immunology would be helpful, but is not a prerequisite. The course will consist of a combination of lectures, group discussion, and homework assignments. For a number of topics, guest lecturers who have a unique perspective on the subject will be enlisted. Particular viral and parasitic pathogens of humans have been selected for study based on their public health importance. Pathogens that are especially problematic in international settings and/or emerging or re-emerging diseases are given special attention. Key factors in the selection of topics include prevalence, morbidity and mortality, and societal impact of the microbe.

PH 2803L *Vaccines: Cornerstone of Public Health*
3 credits
This course allows students to fully understand the origin of vaccines, the immune response to vaccines, how vaccines are manufactured, how they are assessed for efficacy, the role of surveillance, the importance of vaccine safety and the key issues of vaccine regulation and economics. Students will be learn about specific vaccines from the time they were conceived, and how they are used, how they provide immunity, and the economics of their use, especially in lower and middle income countries. Students will understand the natural history of the diseases prevented by the vaccines.
Prerequisites (recommended): a basic course in epidemiology, statistics and biology.

PH 2805L *Medical Microbiology*

3 credits

The course is designed as an introductory course in medical microbiology; a basic background in biology should be sufficient preparation. An understanding of the basic concepts of immunology would be helpful, but is not a prerequisite. The course will consist of a combination of lectures on selected topics. For a number of topics, guest lecturers who have a unique perspective of the subject will be enlisted.

Particular bacterial pathogens of humans have been selected for study based on their public health importance. Key factors in the selection of topics include prevalence, morbidity and mortality, and societal impact of the microbe.

PHW 2808L *Overview of Tropical Medicine*

2 credits

This course focuses on health issues and public health problems common in tropical and subtropical regions of the world, with an emphasis on research in South America. The course gives an overview of the main tropical diseases such as malaria, tuberculosis, HIV, neglected tropical diseases and maternal and child health issues. The course will cover global epidemiological data of these diseases with an emphasis on developing countries; some basic information on the clinical presentation and diagnosis; the current main challenges for prevention and control; and potential areas for research.

PHW 2810 *Pathology and Public Health*

3 credits

This course provides an overview of the pathophysiology of disease. The first third of the semester is devoted to studying pathophysiologic processes. Thereafter, for each body system, two to three diseases are examined and studied in detail, including clinical, histologic, and anatomic changes that occur, as well as public health implications of each. Each student presents a final research project on a disease process or type, including the pathology and public health aspects. The final grade is based on attendance, participation, examinations, and class projects.

Prerequisites: PHW 2750 or [one semester of college biology or zoology]

PH 2815L *Genetics and Human Disease*

3 credits

This course introduces principles and methods of human genetic analysis with special reference to the contribution of genes to the burden of human disease. Although molecular, biochemical, and morphogenic processes controlled by genes will be briefly surveyed, the aim of the course is to describe the analytical processes whereby genetic mechanisms are inferred based on pedigrees and population-based designs using tools ranging from segregation and linkage analysis to genome-wide association studies and multi-omic integration.

Prerequisites: Consent of instructor & general genetics and statistics

Cross-listed with GSBS GS110013

PH 2817L Big Data Foundations for Genes, Environment and Interactions

3 credits

This course introduces the principles and methods for making inferences regarding genes, environments and their interactions in the context of Big Data resources including, electronic medical records, genomics, transcriptomics, epigenetics, microbiomics, metabolomics and environmental assessment. An overview of the data constructs, utility, limitations and integration of these area will be given along with brief introductions to Python and R in order to evaluate how genes and the environment interact to maintain or compromise health.

PH 2830L *Clinical Genetics in Epidemiology*

3 credits

This course teaches the role clinical genetics plays in the practice of epidemiology, and the relationship between epidemiology and medical genetics. Emphasis will be on the practice of medical genetics as it may be encountered by professionals in public health. The subject material covers basic biology of clinical genetics, genetic diseases and birth defects as seen in a medical genetics clinic, the provision of genetic services in Texas, and public policy issues relating to the practice of medical genetics.

Prerequisites: Recent course in college biology or equivalent

PHWM 2835 *Injury Epidemiology*

3 credits

PHWD 2835 *Injury Epidemiology*
3 credits
This course provides overview of the leading types of injury in the United States, as well as the epidemiologic methods employed in conducting injury research. Students will learn about injury surveillance methodology employed to foster the reporting and capturing of injury events. Students will learn to systematically critique the injury literature by applying epidemiologic methodology. Students will have the opportunity to engage in online discussion about motor vehicle accidents, violence, drowning, nail gun injury, needle stick injury, musculoskeletal, and farm-related injuries, to name a few topics.

PHM 2845L *Nutritional Epidemiology*
3 credits
PHD 2845L *Nutritional Epidemiology*
3 credits
This course teaches how to describe the methods and evaluate the issues associated with nutritional assessment of populations using dietary, biochemical, and anthropometric data. A combination of lecture, seminar, and hands-on activities are incorporated to examine the strengths and weaknesses of nutritional assessment methodologies used with epidemiologic study designs. Students are provided data and guided to explore methodologies of statistical analysis and interpretation of nutritional data.
Prerequisites: [PHM 2612L or PHM 2610] & [PHM 1690L or PH 1700L or equivalent] or consent of instructor

PH 2858 *Quantitative Analysis for Public Health Research and Practice*
3 credits
This course bridges epidemiological and biostatistical skillsets. The overall objective is to provide students with the tools and hands-on experience of analyzing datasets guided by research questions. Students will learn how to conduct a research project from conceptualization to dissemination, including: development of research questions and analytic plans; cleaning and coding data; assessing the degree of missingness; evaluating and interpreting univariate, bivariate, and multivariate analyses and building models; analyzing and conceptualizing interaction; analyzing complex survey data; and appropriate research dissemination techniques.
Prerequisites: [PHM 2612L or PHM 2610] & [PHM 1690L or PH 1700L]

PH 2860 *Advanced Design Analysis Methods in Epidemiology*
3 credits
This course primarily covers topics related to study design and appropriate data analysis using advanced techniques. At the core, the faculty will discuss basic and generalized regression models for binary (logistic), continuous (linear), and count (Poisson) outcomes; multivariate data reduction techniques, such as factors analysis and Principal Component Analysis; longitudinal models; analysis of clustered data; and select data mining methods. Whenever possible, the faculty will illustrate how to carry out data analyses in SAS or STATA or other suitable statistical packages.
Prerequisites: PH 2710L & PH 1830L

PH 2890 *Using Mobile Health (mHealth) Technologies in Public Health*
3 credits
This seminar is an avenue for students to familiarize themselves with electronic health (eHealth) technologies and mobile health (mHealth) tools and to discuss their applicability for public health efforts in a supportive environment of peers and faculty.

PHM 2950L *Genetic Epidemiology of Chronic Disease*
2 credits
This course exposes students to the evidence and logic involved in inferring the contribution of genetic mechanisms to those diseases of public health importance. Emphasis will be on developing a framework for assessing the impact of genes on common disease, in a non-technical manner. The course does not include detailed methodological developments or statistical techniques. The format will be a weekly two-hour session during which a single disease will be examined. In this way, students will be introduced to a broad spectrum of diseases and learn to recognize the similarities and the uniqueness inherent to each and the prospects of utilizing genetic and genomic data for improving health outcomes for individuals, families and public health, in general. [Cross-listed with GSBS GS110092]

PH 2960 *Seminar in Genetics and Population Biology*
1 credit
Students analyze and present individual topics or research. [Cross-listed with GSBS GS110711]
Prerequisites: Consent of instructor

PHW 2970L *Foundations of Public Health Genetics*
3 credits
This course is designed mainly (but not exclusively) for students with a limited background in genetics who want to gain an appreciation of the importance and current limitations of the application of human genetics to public health approaches to identifying and ameliorating disease. The course aims to provide enough background in genetics, human biology, and genomics to allow students to understand and appreciate the role of human genetics in public health. Doctoral students will complete additional work to demonstrate the ability to synthesize information from published papers and online resources and use it to analyze features of genetic diseases that are unique, unusual, or not yet well understood.

PH 2975 *Community Oriented Quality Improvement*
3 credits
This course introduces students to concepts of Community Oriented Quality Improvement (COQI): 1) Meeting with field representatives; 2) Conducting a needs assessment and/or systematic review; 3) Determining areas of organizational quality improvement; 4) Design QI project based on their and empirical evidence; 5) Develop an evaluation plan.

PHD 2990 *Epidemiology Seminar*
1 credit
The Epidemiology Seminar and Journal Club is open to all students, but is mandatory for epidemiology doctoral students who have not yet taken their preliminary examination. The seminar is intended to hone research and presentation skills, and to provide students an opportunity to present data, a research proposal, or an epidemiology-related topic to an audience of their peers and mentors. The seminar will provide students an opportunity to receive critical feedback on their research and develop professional interactions between faculty and other students.

PHW 2491 *Public Health Preparedness & Disaster Response*
3 credits
PHW 2991 *Public Health Preparedness & Disaster Response*
3 credits
This course provides an overview of the emergency response system and the public health system responsibilities in management of disasters with a special emphasis on planning and response. The course format is an interactive graduate level electronic seminar. Website resources are identified for students to obtain basic background information regarding disaster preparedness, emergency response systems, and emergency plans.
Prerequisites: PHM 1110L & PHM 1690L & PHWM 2110L & PHM 3715L & PHM 5015L

PHWM 2996 *Capstone for EPID Students*
3 credits
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students produce at least one high-quality written product.
Prerequisites (for students admitted prior to fall 2023): Completed MPH core courses & completed PH 2615L Epidemiology II & completed at least 30 semester credit hours the semester before enrolling in capstone & completed or concurrent enrollment in **PH 9997** *Practicum*.
Prerequisites (for students admitted in fall 2023 or later): Completed MPH core courses & completed PH 2615L Epidemiology II & PH 2710L Epidemiology III & completed at least 30 semester credit hours the semester before enrolling in capstone & completed or concurrent enrollment in **PH 9997** *Practicum*.

PH 2998 *Special Topics in Epidemiology*
Credit hours vary among Special Topics courses
Special Topics in Epidemiology vary each semester.

PH 2999 *Independent Study in Epidemiology*
1-9 credits

A plan of study is determined for each participating student, and supervised by a member of the Epidemiology faculty. In general, courses of independent study are not recommended unless a student has completed the introductory course or presents evidence of experience in the field of epidemiology. All independent study courses are required to have learning objectives and an outline of learning activities.

Management, Policy and Community Health Courses

PHW 3616 *Thinking for the Future*
3 credits
This course addresses both the drivers of change in the 21st century that impact public health and the cognitive skills that will allow individuals to participate in effecting positive change. Students will be exposed to problem approaches that are appropriate for complex situations that arise in public health.

PHW 3617 *Thinking for Public Health*
3 credits
This course is self-paced and online. It is designed to aid the student in identifying systematic thought processes that impact the quality of the analysis of public health issues and the design of potential solutions. The student will be exposed to theories that cross disciplinary boundaries of psychology, behavioral economics, and decision science with an application to public health. It is this applicable to the cognitive bases of several public health competencies.

PHWM 3620L *Principles and Practice of Public Health*
4 credits
PHWD 3620L *Principles and Practice of Public Health*
4 credits
This course illustrates how the health of populations is promoted and protected by organized public health practice. Students are acquainted with current evolving concepts and performance of public health practice, and are introduced to essential public health services performed by public health agencies. Students will learn expectations of the effective and efficient performance of agencies and the competencies required of individual public/community health workers. Representatives from community/public health programs will participate in class presentations along with faculty.

PHD 3625L *Practice-based Design and Methods*
3 credits
This doctoral level course focuses on the design and selection of methods applicable to public health and community practitioners working in real-world settings to answer real-world questions. In this course, students will partner with a community organization of their choice to design a study protocol for a community or population health issue.

PHM 3630 *Health Program Planning, Implementation and Evaluation*
3 credits
This course introduces students to the fundamental concepts and techniques of planning, implementing, and evaluating public health programs. The course will cover concepts that are relevant to evaluation of health interventions, as well as social and behavioral interventions, in the community settings. These will include program/intervention; implementation and impact evaluation concepts; models/designs; methods; indicators; and data collection, analysis, and interpretation strategies. Design and application of evaluations will include both quantitative and qualitative research methods.

PHD 3631L *Community Engagement/ Community-based Participatory Research*
3 credits
This course is designed to provide students with essential concepts of both Community Based Participatory Research (CBPR) principles as well as overall guidance in Community Engagement (CE) practices with public health research. CBPR and CE is a partnership approach to research that equitably involves community members and researches in all aspects of the research process. This engagement allows all partners to contribute their own expertise and share in the decision-making process and overall ownership of the research. This course is intended for doctoral students interested in using CBPR approaches.

PHM 3715L *Management and Policy Concepts in Public Health*
3 credits

This course provides an overview of theory and practice in the management and policy sciences applied to the field of public health. Topics include public health in the U.S. health system/legal bases of public health, public policy institutions, planning and management to promote health, emergency preparedness, public sector institutions, management, and decision-making. Students will gain skills in oral and written communication with individual and group projects.

PHM 3718L *Accounting for Healthcare Management*
2 credits
This course covers relevant topics in financial accounting and management. Students will improve their understanding of financial accounting principles and will learn different analytical approaches for evaluating financial performance in the healthcare sector. In addition, it will enable students to demonstrate a mastery of key theories and principles of healthcare accounting and to apply ethical decision making in financial management.

PHM 3720L *Healthcare Finance*
2 credits
This course offers students the opportunity to improve their understanding and use of financial concepts and principles in the health care industry. Financial management under prospective payment and capitation systems, as well as product costing and pricing, are included. The lecture format will be augmented by student readings, homework assignments, and class discussion. Students are expected to attend class, participate in discussions, and complete homework assignments.

PHD 3721L *Healthcare Finance*
3 credits
This course offers doctoral students the opportunity to improve their understanding and use of financial concepts and principles in the health care industry, and to consider anticipated changes due to health care reform. Managerial and financial accounting, as well as financial analysis and strategic planning, are covered. Financial management under prospective payment and capitation systems, as well as product costing and pricing, will be emphasized.

PHD 3731L *Research Design and Inquiry*
3 credits
This course prepares students to conduct research with academic rigor. Students are exposed to different research methods prevalent in healthcare management and policy disciplines through assigned readings (research articles and unpublished dissertations). In addition, the course emphasis is on manuscript writing, designing a feasible study grounded in theory or conceptual framework and based on publicly available data sources, comprehensive literature review, selection of appropriate research methods, and identification of potential analytical issues and methodological solutions. Prerequisites: PH 1700L & PHM 3744L & PHD 3930

PHW 3732L *Research Methods in Public Health Law*
3 credits
In this class, students will learn about the variety of mechanisms, theories and models central to conducting public health law research, a growing field dedicated to empirically measuring and analyzing law as a central means for advancing population health. Students will learn to integrate theories from social and behavioral sciences in examining public health law and policy. Students will learn to research statutes, regulations, and case law and how those can be used to alter the informational, socioeconomic, and built environments for population health. Students will compare optimal research designs for randomized trials and natural experiments for public health law evaluation, as well as methods for qualitative and cost-benefit studies of public health law. They will also discuss the challenge of effectively translating the results of scientific evaluations into public health laws.

PHW 3733L *Law and Policy*
3 credits
In this class, students will review important aspects of the US government and its functions and then learn how public agencies combine the three functions of government that are normally separated—executive, legislative, and judicial—into single institutions with jurisdiction over many policies that act as social determinants of health. Federal, state, and local agencies have broad powers to create and enforce those regulations. As the scope and power of administrative law is extensive, students will also learn about the limitations on agency action, from constitutional constraints to judicial review.

PHW 3734L *Public Health Policy Surveillance and Legal Epidemiology*
3 credits
Students will learn to conceptualize a public health policy research topic, collect and codify the relevant laws and apply statistical techniques to analyzing public health law datasets. Students will learn the techniques for tracking policy changes over time (policy surveillance), legal mapping (comparing policies across jurisdictions), and legal epidemiology (analyzing causal relationships between policy changes and population health outcomes). The course will prepare students to complete a research project in the subsequent semester as an independent study.
Prerequisites: Previous courses in biostatistics and epidemiology or equivalent experience

PH 3735L *Healthcare Strategic Management*
3 credits
This course focuses on the development and implementation of strategy by health care organizations in the changing healthcare marketplace. The course stresses practical approaches to articulate an organization's mission and vision and to formulate strategies that fit the external and internal situation. In addition, basic principles of community-based health planning are examined, and the potential linkages between organizational strategic planning and population health are explored. This is a required course for the healthcare management MPH program.

PH 3736L *U.S. Healthcare Payment Systems and Policy*
3 credits
This course reviews current U.S. healthcare policy in terms of the national healthcare system and the various payments systems. This course builds on system theory and examines the unique approach in the US and how it is changing. In the United States, payment systems are provided in the form of private or public insurance plans, or other forms of group coverage that are offered to eligible populations. Each healthcare payment system will be examined in depth to reveal the policies that serve as the foundation of the program; the authority, the economics, the targeted population, and the current challenges. Students will apply systems theory and policy concepts to theoretically redesign the U.S. healthcare system.

PH 3737L *Cost-effectiveness for Public Health Interventions*
2 credits
This course is an applied introduction to cost-effectiveness. The students will compare and contrast cost-benefit, cost of illness, and cost-effectiveness. The course will cover study design, costs including opportunity costs, estimating life-expectancy including quality adjustment, and conducting sensitivity analyses. Students will present applied examples of studies, and will write a proposal to assess an intervention, policy, or regulation.

PH 3738L *Legal Issues in Healthcare*
3 credits
This course provides an overview of legal and ethical issues facing the healthcare industry and examines legal and ethical issues in the administration of health care programs. Students will gain a working knowledge of how to apply federal and Texas health laws and regulations to real-world problems. Components studied include: key legal process and resources, ethical issues of concern to health providers, medical staff issues and peer review, quality and malpractice concerns, legal and ethical issues related to access to healthcare, end of life issues, reproductive health, role and structure of hospital ethics committees, tort law and professional liability, fraud and abuse, governmental regulation, informed consent, confidentiality and medical records, and ethical decision-making.

PHD 3743L *Organizational and Management Theory*
3 credits
This course helps doctoral students to develop frameworks for thinking about the world of health care organizations and its complexity. The specific emphasis will be health services organizations and management research, with an emphasis on organization theory. Organization theory is a set of approaches to the understanding of how organizations form, survive and grow, interact with each other, recruit and process members, gain and manage resources, and deal with internal and external problems. The primary goals of this course are to apply relevant theories to a range of organizational problems and to attain skills needed to be an effective researcher in health services organization and management research.

PHM 3744L *Organizational Behavior and Human Resource Management in Health Services Organizations*

3 credits
This course provides students with an application of organizational behavior theory; models to analyze; and evaluation factors that affect behavior, performance, and job satisfaction of people working in organizations. This course exposes students to a body of knowledge and equips them with skills needed to successfully manage and lead health services organizations. It focuses on applying different approaches for managing individuals, teams, and organizations to achieve organizational excellence.

PHM 3746L *Evaluation and Improvement of Healthcare Quality*
3 credits
This course provides students with requisite knowledge and skills for understanding, evaluating, and improving clinical and operational processes, as well as healthcare outcomes both within an organization and across a population. Qualitative and quantitative approaches to quality management and improvement are examined through historical perspectives, real-world cases, and didactic exercises.

PH 3747L *Healthcare Operations Management*
2 credits
This course introduces students to key management functions, processes, issues, and challenges currently face by health care agencies and organizations. This course uses more advanced methods to improve healthcare processes and outcomes. Specific focus will vary but may include: understanding how organizational context influences processes and patient care; problem-solving and using key tools such as SWOT or gap analysis; understanding how policies and regulations affect operations; making process improvements (e.g. reducing hospital readmissions); understanding performance measure and how these are used for mandatory reporting and tacking program or patient outcomes; and learning about tools, concepts of techniques used to improve management performance.

PHM 3800L *Working with Diverse Communities*
3 credits
PHD 3800L *Working with Diverse Communities*
3 credits
This introductory course will focus on providing students with the knowledge and tools necessary to increase cultural awareness and sensitivity. The class begins with an intensive workshop, introducing students to key concepts and community members engaged in social justice work. Following the introductory workshop, readings from each week will focus on the unique needs and challenges of a different community.

PHD 3801L *Community-based Grant Writing Workshop*
1 credit
The goal of this introductory-level doctoral course is to provide students with the knowledge and tolls necessary to write a community-based grant proposal. This course covers the complete process of grant proposal development: legal and policy background of funding organizations; theory and culture of philanthropy; funder relations; research and identification of an achievable and fundable project; logistical concerns when preparing a proposal; proposal writing; budget development; preparation of a full proposal package for submission; and post award or rejection follow-up with funders. Students gain an understanding of community based organizations and become familiar with tools and resources available to assist them as they seek funds for their projects, institutions, or causes.

PHM 3810 *Health Policy in the United States*
3 credits
PHD 3810 *Health Policy in the United States*
3 credits
This course provides an overview of health policy in the United States. The principal institutions, processes, and ideas shaping health policy at the federal level will be described and explained. Health policy questions will be illustrated using substantive topics of importance to public health. Doctoral students will appraise health policy in the United States and evaluate its strengths and weaknesses. Principal policy-making institutions, processes, and ideas that shape health policy at the federal level will be assessed and criticized.

PHD 3812 *Comparative Health Systems*
3 credits

This doctoral seminar course examines national health systems. The World Health Organization building blocks framework is introduced to appraise different components of national health systems with the intent of strengthening them. The second half of the course is devoted to systematically comparing national health systems, as well as the industries within the health system and sectors that are associated with the health sector. The course draws on organizational theory and other theories in the social sciences. It has a balances focus on low-, middle-, and high-income countries.

PH 3815 *Health Policy Analysis*
3 credits
This course examines the process of policy development and the role of research and analysis in the process. A framework is introduced for selecting the type of research and analysis needed to address different policy questions. Key concepts and methods of policy research and analysis are introduced and applied to real-world policy problems in public health. Upon completion of the course, students should have an understanding of the role of policy analysis in the policy development process, be able to frame policy issues for research and analysis, and be able to identify and appropriately apply research methods and analysis to policy questions.

PH 3818 *Texas Health Policy: Emerging Issues and New Approaches*
3 credits
This course examines major issues, new programs, and legislative initiatives in Texas health policy. Background information on the state legislative process, budget, and historical role in health policy is presented. Policy analysis concepts and methods are introduced as a guide for class discussion and student assignments. When the legislature is in session, topics are selected that reflect proposed legislation. In semesters between legislative sessions, topics are selected based on interim study assignments and other sources. Topics typically include: Medicaid/CHIP changes/reform, healthcare regulation, behavioral health, long-term care, medical education, rural and border health, disease prevention and control, and health promotion.

PH 3825 *Public Health Law*
3 credits
This course introduces students to public health law, which defines the extent to which the state can interfere with private interests when protecting the health of the population. Students will study, through constitutional and statutory analysis, how the balance between these interests is determined. Because administrative agencies are used extensively to regulate matters that affect the public health, students will examine the legal characteristics of these governmental entities. The use of the common law to establish public health policy and remedies for public health problems will be considered.

PHD 3830 *Ethics and Policy*
3 credits
This course focuses on the application of ethics, values, and moral reasoning to problems and issues in public health. It offers a careful overview of approaches to moral theory and modes of assessment to develop students' skills in reasoning and evaluation. Special attention will be given to justice and equity as key moral claims in public health. Practical examples will be used to illustrate moral arguments, criteria, and modes of reasoning connected with health promotion, disease prevention, and healthcare delivery.

PH 3835 *Public Health Advocacy*
1 credit
This course provides the basic underlying skills, tools, and knowledge necessary to participate in public health policy advocacy initiatives at the local, state, or federal level. The policy making process and organizational advocacy strategies will be explained, and students will apply their learning and develop their oral and written advocacy skills through assignments.

PHD 3846L *Quality Management and Improvement in Healthcare*
3 credits
This course provides students with requisite knowledge and skills for evaluating and conducting research in the areas of quality, performance improvement, high reliability, and patient safety at the unity, organization and population levels. Frameworks for defining, analyzing and comparing quality outcomes are presented, inclusive of confounding factors. Operational approaches to population health and organization quality improvement are examined through expert

speakers and real-world cases. Students are also introduced to management science techniques commonly used to assess and improve systems and workflows.

PHM 3910 *Health Economics*
3 credits
PHD 3910 *Health Economics*
3 credits
This course covers the theory of microeconomic analysis and its application to health and health services. It emphasizes the use of theory to understand problems of organization, delivery, and financing of health services; discrepancies in health levels among members of society; and the choices available to society regarding these issues.
Doctoral students will also be required to write a paper that identifies and discusses the major policy and research issues in one of the areas that is introduced in the course, critically reviews relevantly published research in this area, synthesizes their view of the state of this research and suggests what types of research might be most fruitful, e.g., as if pursued in a dissertation.

PH 3915 *Methods for the Economic Evaluation of Health Programs*
3 credits
This course covers the concepts and methods for the economic analysis of healthcare decision alternatives. Topics will include cost-benefit, cost-effectiveness and cost-utility analysis, and other methods of decision analysis. It emphasizes the application of these methods to the evaluation of alternative health programs.
Prerequisite: Consent of instructor

PHM 3918L *Geographic Information Systems Science*
3 credits
PHD 3918L *Geographic Information Systems Science*
3 credits
This introductory level elective course in Geographic Information Systems Science (GIS) introduces the science and skills required for the geographic exploration of public health data. Topics will include cartography, sources of GIS data, working with Census and other secondary data sources, geoprocessing, geocoding and basic spatial analysis, among others. Students will acquire skills through a combination of lecture, labs and hands-on assignments using ArcGIS and other software packages.

PH 3920 *Health Services Delivery and Performance*
3 credits
This course explores the effectiveness, efficiency, and equity of the U.S. healthcare system. Students are introduced to definitions, concepts, and methods used in health services research and policy analysis, and given an opportunity to use them to evaluate important problems and efforts to reform the healthcare system. Each section of the course is taught by a different faculty member with expertise related to one area of health services research and/or policy analysis. Each year, there is a thematic focus for the course that is addressed from the various perspectives and is the subject of a policy analysis exercise at the end of the semester.

PHM 3922 *Economic and Social Determinants of Health*
3 credits
PHD 3922 *Economic and Social Determinants of Health*
3 credits
This course introduces the concept of population health and analyzes the reason for health disparities between countries as well as socioeconomic and racial/ethnic groups within countries. It takes an approach to health that identifies the social factors, such as inequalities in income and opportunities, and racial/ethnic disparities that influence the health of populations. The course examines population health by exploring economic, social, and cultural factors; identifying systematic variation in these factors leading to health disparities; exploring how economic, social, and cultural conditions affect individual risk factors, human behavior, and biology; and assessing economic and social policies. A social determinants of health-related term paper is required.
For doctoral students: A longer and more in depth paper is required.

PHD 3926L *Health Survey Research Design*

3 credits
This course presents the methods for designing and conducting health surveys. Emphasis will be placed on problem conceptualization, measurements, and questionnaire design in the context of a total survey design framework. Examples of face-to-face, telephone, mail, and Internet surveys will be presented.
Prerequisites: PHM 1690L & [PHM 2610 or PHM 2612L] or equivalents

PHD 3930 *Econometrics in Public Health*
3 credits
This course has two learning objectives: developing skills in quantitative methods for the analysis of complex data, and understanding and critically evaluating public health research using econometric methods. This course consists of 11 units, including linear regression, non-linear regression, analyzing cost as dependent variable, panel data methods, random and fixed effect models, specification tests, endogeneity, instrumental variables, and selection models.
Prerequisite: Consent of instructor

PHD 3931 *Advanced Econometrics*
3 credits
This course introduces advanced techniques in statistics and econometrics for conducting successful health outcomes and policy research. Students are expected to have an understanding of basic statistical concepts, such as discrete and continuous random variables, probability distributions, joint distributions, conditional distributions, independence, statistical inferences and estimations, properties of estimators, hypothesis testing, ordinary least square regression, logistic regression, one-way ANOVA, contingency tables, and χ^2 (chi-square) analyses. Topics covered will include Causal Inference, Causal Graphs, Treatment Effect Identification, Models of Causal Exposure, Linear regression, Panel Data methods including Fixed and Random Effects estimation, Limited Dependent Variable Models like - Logistic regression, Probit, Tobit, Heckman, 2-Part and 2-Step models, Interpreting Marginal Effects and Interactions for Limited Dependent Variable models, Modeling cost data especially using log transforms, Simultaneous Equations and Instrumental Variable Analysis, and Use of Specification Tests like Hausman, Breusch-Pagan, White, Park, Glejser and Box-Cox. The course will emphasize practical applications of statistical methods to real world problems of public health and health outcomes research.
Prerequisite: PHD 3930 or equivalent

PHD 3935 *Advanced Health Economics*
3 credits
This doctoral seminar-style course focuses on the application of microeconomic analysis to questions dealing with the production of health, the demand for health services, the production and supply of health services, market equilibrium, social health insurance, and government regulation of health sector activities.
Prerequisites: [PHD 3910 or equivalent] & consent of instructor

PH 3940 *Healthcare Outcomes and Quality Research*
3 credits
This course introduces students to measurement and evaluation issues associated with patient-centered outcomes and quality of care studies, an increasingly important component of present-day health services research. The focus will be on the application, rather than development, of measurements. Topics that will be covered include development of the outcomes framework, outcomes measures, risk adjustment of health outcomes, technical and practical issues with measurement and estimation, and empirical examples of healthcare outcomes research. Outcome and quality measures that will be covered include generic and condition-specific health status measures, satisfaction, patient trust, and patient adherence.

PH 3941 *Claims Data in Healthcare Research*
3 credits
This course provides an overview of the elements of administrative claims data. This information will be crucial to any student interested in utilizing claims data for research purposes. The course will focus on the various data fields in enrollment, and medical claims, and pharmacy claims. Strategies for effectively querying claims datasets will be provided. Multiple data sets include commercial claims, Medicare claims, and Medicaid claims.
Prerequisites: Familiarity with SAS or Stata

PHD 3945 *Advanced Health Services Research Methods*
3 credits
This course introduces students to the application of quantitative methods in health services research. The major elements of designing and conducting an empirical study will be covered, with emphasis on specification of research questions and design, measures, use of primary and secondary data sources, and issues in bivariate and multivariate analysis. Examples of the use of different methods in the literature will be reviewed.

PHD 3946L *Strategy, Governance, and Leadership*
3 credits
This course provides students with an overview of the basic concepts and principles of strategic planning within the broader context of governance, management, and leadership. The emphasis on this broader context is important because it is in the arena of strategy development that governance and management overlap and the need for clear leadership arises. While the institutional focus is primarily on healthcare organizations, the organizational dynamics and strategic management principles apply across industries.

PHD 3950 *Applied Leadership Studies in Public Health*
3 credits
This course is designed for doctoral students in all disciplines who have had previous leadership courses or leadership training. It focuses on synthesizing, applying, and evaluating leadership theories, concepts, and emerging perspectives; analyzing personal, professional, organizational, and system leadership dynamics in a rapidly changing and complex world; and discerning the implications of leadership research on the practice of leadership in public health research and practice settings. Three themes of reflection, critical thinking, and communication support the examination of leadership dilemmas, patterns, behaviors, and outcomes. Other topics to be addressed include leadership studies research; complex adaptive systems and sustainability; culture and change; ethics; power influence and politics; and creating and sharing a vision.

PHD 3970 *Doctoral Dissertation Proposal Development in Management, Policy and Community Health*
This course focuses on the development and critique of a dissertation research proposal for students pursuing a DrPH or PhD in MPACH.
Prerequisites: Enrolled in a doctoral program (DrPH or PhD) in MPACH & completed an acceptable dissertation topic synopsis & identified dissertation chair

PHM 3996L *Capstone for MPCH Students*
3 credits
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students produce at least one high-quality written product.
Prerequisites: Students must be an MPH MPCH major or a MPH Customized major with advanced public health coursework meeting major-specific competency requirements & completed the MPH Core courses & completed at least 30 semester credit hours the semester before enrolling in capstone & completed or concurrent enrollment in PH 9997 Practicum.

PH 3998 *Special Topics in Management, Policy and Community Health*
Credit hours vary among Special Topics courses
Topics vary each semester and provide in-depth study of various public health issues.

PH 3999 *Independent Study in Management, Policy and Community Health*
1-9 credits
A plan of study is determined for each participating student and supervised by a member of the MPACH faculty. This course may be repeated for credit. All independent study courses are required to have learning objectives and an outline of learning activities.

Interdepartmental Courses

PHM 5015L *Introduction to Qualitative Research in Public Health*
2 credits

This course will provide an overview of qualitative research in public health. Students will be introduced to qualitative research methods and analysis. This introductory course will help students understand the core ideas, processes, and activities underpinning qualitative research. Students will be able to develop interview guides, focus group guides, and codebooks and have the opportunity to practice qualitative methodological and analytical techniques. This knowledge will allow the student to use qualitative research in public health practice and provides preparation for further study of qualitative research methods and analysis.

PH 5030 *Diabetes Seminar*
1 credit
This seminar will offer comprehensive course content during a 1-week timeframe in the first summer session. Topic areas include standards and practice recommendations; pregnancy and diabetes; acute and chronic complications of diabetes; diabetes education; and medications. Treatment algorithms, protocols, and guidelines for weight loss, exercise, nutrition, glycemic control and insulin administration will be discussed. A diabetes cooking classe will be presented during the week. This course is also open to medical students, nursing students, etc. and to RDs/interns in the community for CEU credits.

PH 5031 *Garden for Health* (fall section 800; spring section 801)
2 credits
In the Holistic Garden of the School of Public Health, students will gain knowledge of how to use the garden as a tool to improve health and quality of life. Common fruits, vegetables and herbs that are produced during the warmer and cooler months of the year along with information that pertains to their successful cultivation and their unique roles in our diet and health will be discussed. Course Fee: $75.00

PH 5032 *Culinary Medicine* (fall section 850; spring section 851)
2 credits
Through innovative nutrition curriculum and hands-on training in the culinary arts, the Culinary Medicine course will teach medical, nursing, and dietetic intern students about food: how to cook, what to eat, and how to help their patients improve their diet – and thereby, their health. Course Fee: $75.00

PHM 5096 *Capstone for Customized Students*
3 credits
This integrative learning experience is designed to demonstrate synthesis of major themes from the MPH core and major-specific courses. Students produce at least one high-quality written product.
Prerequisites: Completed the MPH Core courses; completed at least 30 semester credit hours the semester before enrolling in capstone; and completed or concurrent enrollment in PH 9997 Practicum. Other prerequisites vary by campus and course offering.

PH 5098 *Foundations of Scientific Writing in Public Health*
3 credits
This course provides students with the basic writing skills critical for scientific writing. Writing is a learned skill that develops with practice coupled with feedback and more practice. Good writing takes more than simply translating ideas onto the page. Good writing includes knowledge of grammar, crafting arguments, and careful revision and editing. This course provides a platform for students to revisit the rules of grammar, practice crafting and structuring arguments, translate ideas onto paper, and write a scientific proposal or manuscript. Students will have the opportunity to read good writing as well as enhance their writing skill through weekly writing assignments and receiving regular feedback.

PH 5098 *Special Topics in Interdepartmental Courses*
Credit hours vary among Special Topics courses
Selected Special Topics provide intensive coverage of interdepartmental theory and applications. Topics vary each semester.

PH 5098 *Special Topics in Interdepartmental Courses: The History and Culture of Disease and Healing*
3 credits
This course is presented in collaboration with the schools of The University of Texas Health Science Center at Houston (UTHealth), Rice University and the University of Houston. It is a humanities course with a series of lectures on Tuesday evenings that have been chosen for their relevance to the relationships between human history and culture and the

epidemiology and impact of disease and the arts of healing. Each lecture is followed by a discussion session on Thursdays at 4-5:30 p.m. The unique collaborative format of this seminar demonstrates shared values between institutions of higher learning and the professional/academic training offered to various specialties.

PH 5099 *Independent Study in Interdepartmental Concentrations*
1-9 credits
A plan of study is determined for each participating student, and supervised by a member of the Concentrations faculty. In general, courses of independent study are not recommended unless a student has completed the appropriate introductory courses in the concentration or presents evidence of experience in the field. This course may be repeated for credit. All independent study courses are required to have learning objectives and an outline of learning activities.

PH 5102 *Health Disparities Core Seminar*
1 credit
This seminar is a venue for students to familiarize themselves with health disparities literature and to discuss current health disparities issues in a supportive environment of peers and faculty.

PH 5200 *Foundations of Leadership in Public Health*
3 credits
This is an introductory course in public health leadership for students in all academic programs. This course introduces students to the theories and principles of effective leadership, presents leadership challenges, and discovers personal attributes of leadership in public health practice and research. Students will begin to develop life-long learning skills through self-development, experiential learning, and discussion of leadership approaches. Content areas will include complexity theory, change management, ethics, collaboration, effective communication, team-building, dialogue, decision-making, conflict management, leadership evaluation, advocacy, and strategic planning.

PHM 5210 *Selected Readings in Leadership Studies*
1 credit
PHD 5210 *Selected Readings in Leadership Studies*
2 credits
These seminars are designed to assess how public health professionals become leaders. Students are introduced to concepts of adaptive leadership, evaluation and analysis of leadership readings, application of concepts to public health and management challenges, and discussion and examination of leadership issues, using experience and examples from the field.

PH 5220 *Gender and Leadership*
3 credits
This course focuses on the topic of women and leadership. Using a seminar approach anchored in selected readings, students will consider prevailing theories of leadership and discuss the variable of gender. Readings will focus on a variety of specific issues such as the "glass ceiling," derailing behaviors, and conflict style differences in women and men.

PH 5301 *Maternal and Child Health Core Training Seminar I*
3 credits
PH 5311 *Maternal and Child Health Core Training Seminar II*
3 credits
The Maternal and Child Health Core Training Seminar sessions will provide an opportunity for instruction and discussion of topics specific to Maternal and Child Health. The scope of the MCH Core Training Seminar curriculum is centered on life span development, from perinatal/infant health to child/adolescent and women's health. Students will receive instruction on utilizing data sources specific to maternal and child health, such as vital records and other routine data sources as well as hands-on experience in extracting data, analyzing data, and interpreting results. Students will also have the opportunity to meet and learn from community organizations in the MCH field. Students will learn MCH content as well as HRSA-defined leadership competencies.

PH 5400 *Physical Activity Assessment and Surveillance*
3 credits

This course provides students with an in-depth understanding of the various methods used to measure physical activity and related constructs (e.g., energy expenditure and physical fitness) in individuals and populations. This understanding will be achieved through a review of the current research literature related to measurement methods and hands-on practice experiences with various physical activity measurement methods (i.e., data collection to interpretation). Behavioral, environmental, and policy-related correlates and determinants of physical activity will also be discussed.

PH 5401L *Physical Activity and Public Health Practice*
3 credits
This course focuses on physical activity promotion in practice. The course covers key topic areas such as the physical activity guideline recommendations, health behavior theories and physical activity interventions, the National Physical Activity Plan, and the Guide to Community Preventive Services Recommendations for physical Activity. The course will also build important skills for reviewing the physical activity promotion literature, identifying priority areas for physical activity promotion, using a systems approach for physical activity promotion, and synthesizing physical activity research to inform practice.

PHD 5500 *Principles of Adult and Community Education for Public Health Educators*
2 credits
This is a required course for students seeking a DrPH and an elective for students seeking a PhD. The course provides an overview of principals of adult and community education, how to design and facilitate a course, and how to evaluate students' learning.
Prerequisites: To be successful in this course, students should understand research design, methods of data analyses, their discipline, the learning needs of their community, and their health topic.

PHD 5502 *Preparing to Teach: Mentoring Future Community Health Educators and Public Health Faculty*
1 credit
This is an elective course for doctoral students seeking a mentored, collaborative teaching experience with an accomplished community or university-based instructor.
Prerequisites: PHD 5500

PH 5610 *Global Health Overview*
3 credits
This course presents an overview of the issues affecting the living conditions and the health status of low-income country residents, and the local and global responses to these problems. Throughout the semester, students will develop an understanding of global and international health through the discussion of sub-themes, including the different meanings of globalization; population and demographics; assessment, health indicators, and epidemiology; immunizations; communicable and emerging diseases; war, conflict, refugees, migration, and displacement; health systems; cultural differentiation; maternal and child health; food security and nutrition; trade agreements, agriculture, and pharmaceuticals; environmental health and pollution; urban health and the development of mega-cities; and economic development.

PH 5612 *Global Health Seminar*
1 credit
This weekly seminar is presented by faculty, students, and Visiting Professors, and varies in subject matter, depending on current events as well as the special expertise and experience of presenters.

PH 5613 *Critical Cinema for Public Health*
2 credits
This course presents a series of documentaries and Big Screen movies revolving around public health topics. The range of topics will include health disparities; health systems; culture, behavior, and health; environmental health themes; globalization; addictions; mental health; food production; research ethics and methods; violence; and surveillance and control of epidemics. All movie presentations will be followed by a class discussion.

PH 9997 *Practicum*
1-9 credits

A practicum is a unique learning experience that is planned, supervised, evaluated and graded. Practicum experiences allow students the opportunity to apply classroom education towards a real-world public health problem in a work setting. Students should consult their degree requirements for maximum credits that can be applied to their degree. More information about practicum can be found online on the UTHealth School of Public Health website.

PHM 9998 *Culminating Experience/ Thesis Research*
1-9 credits
A culminating experience is designed to ensure that all MPH graduates can integrate and apply the knowledge and skills that they have gained during their graduate training. Students should consult their degree requirements for maximum credits that can be applied to their degree. More information about culminating experience can be found online on the UTHealth School of Public Health website.

PHD 9999 *Dissertation Research*
1-9 credits
Dissertation research is for students pursuing a doctoral degree that are required to complete a written research dissertation that makes a substantial contribution to knowledge in the public health sciences. Students should consult their degree requirements for maximum credits that can be applied to their degree. More information about dissertation research can be found online on the UTHealth School of Public Health website.