

# Drexel University

## Catalog 2009/2010

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## Catalog 2009/2010

### **The School of Public Health**

#### **About the School**

The mission of the School of Public Health is to promote health and quality of life through graduate education, applied research, and community service in the prevention and control of disease, injury, and disability. The curriculum combines knowledge of the disciplines of public health and practical applications of that knowledge. By working collaboratively with community groups, agencies, and populations, professionals are prepared to effectively address today's most pressing public health problems.

#### **Preparation and Partnership**

The School prepares professionals to assess population health; to ensure appropriate services through programmatic, economic, and organizational interventions; and to develop and evaluate policy interventions.

The School believes that professionals can best meet the needs of today and tomorrow with expertise in the integration and practical application of all disciplines of public health. This belief led to the establishment of a School of Public Health whose educational and research programs are built upon partnerships with communities and the organizations that serve them.

### **About the MS in Biostatistics**

Biostatistics applies statistical, mathematical and computational techniques to scientific research in health-related fields, including medicine, epidemiology, and public health. Biostatistics has been an integral and indispensable tool in improving health and reducing illness. Biostatisticians play essential roles in designing studies and analyzing research data. Graduates with degrees in biostatistics are employed in public health research and service organizations, university research groups, hospitals, pharmaceutical companies, health-related industries and government. The demand for biostatisticians in the job market has been consistently strong. New high throughput technologies such as gene microarray are generating an unprecedented amount of data and present exciting new opportunities for biostatisticians with strong computational skills.

The goal of Drexel University's MS Program in Biostatistics is to provide students with a thorough understanding of biostatistical methods, strong computational skills, and the ability to apply this knowledge to research focusing on health related problems. The program prepares students for handling the quantitative and computational aspects of a research project, ranging from study design, data collection and management, developing analysis plans, and conducting analyses and reporting findings. The program provides students with knowledge in statistical theory and computational methods as applied to biomedical and public health research.

Upon graduation MS students will attain competencies in the following three areas: general public health knowledge; biostatistics knowledge; data management and computing skills.

For additional information about the program, visit Drexel's School of Public Health web site.

### **MS in Biostatistics Admission Requirements**

Applicants to the MS in Biostatistics must meet the following requirements, having:

- a baccalaureate degree, ideally in a quantitative field such as mathematics, economics and computer science or a scientific area such as natural, biological, medical and environmental sciences.
- at least two semesters of calculus in college.
- knowledge and experience in computing such as operating system, office software and Internet. Familiarity with a programming language or a statistical package is desirable.

The application package will include:

- undergraduate and graduate transcripts
- three letters of recommendation from faculty or professionals who can evaluate the applicant's promise as a graduate student
- Graduate Record Examination (GRE) scores
- a written statement of career and educational goals.

### MS in Biostatistics

48.0 credits

#### Degree Requirements

Completion of the MS in Biostatistics requires: (1) a minimum of 48 credit hours of course work; (2) a cumulative grade point average of 3.0 or higher; (3) a substantial data analysis project (9 credit hours) with a written report (30-50 pages) and oral presentation.

#### Curriculum

##### Required Public Health Courses 10.0 Credits

PBHL 516	Introduction to Public Health	2.0
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In addition, students select two of the following Public Health courses:

PBHL 540	Behavioral Assessment	4.0
PBHL 550	Community Assessment	4.0
PBHL 640	Environmental Health	4.0
PBHL 650	Policy and Advocacy	4.0
PBHL 660	Occupational Health	4.0

##### Required Biostatistics Courses 25.0 Credits

PBHL 520	Biostatistics	4.0
PBHL 620	Intermediate Biostatistics I	3.0
PBHL 621	Intermediate Biostatistics II	3.0
PBHL 622	Introduction to Biostatistics Theory	3.0
PBHL 623	Biostatistics Computing	3.0
PBHL 628	Survival Data Analysis	3.0
PBHL 625	Longitudinal Data Analysis	3.0
PBHL 629	Design and Analysis of Clinical Trials	3.0

##### Required Epidemiology Courses 7.0 Credits

PBHL 530	Epidemiology	4.0
PBHL 630	Intermediate Epidemiology	3.0

##### Suggested Electives 6.0 Credits

BIO 631	Bioinformatics I	3.0
BIO 640	Biometry	3.0
MATH 510	Applied Probability and Statistics I	3.0
MATH 511	Applied Probability and Statistics II	3.0
PBHL 632	Applied Survey Research in Epidemiology	3.0
PBHL 804	Research Methods for Community Health and Prevention	3.0
PBHL 830	Advanced Epidemiology	4.0
STAT 604	Decision Sciences	3.0
STAT 628	Regression and Correlation Analysis	3.0

### **About the Master of Public Health (MPH): Full-time Program**

Drexel University's Master of Public Health (MPH) full-time program provides practical skills and experience, with a unique focus on relevant community issues, challenges, and priorities.

The 64 quarter-credit program is interdisciplinary and requires students to complete a comprehensive, community-based master's project. The program prepares students to enter an array of fields related to public health or a range of doctoral programs.

#### **Program Highlights**

The first year of the program covers five core disciplines offered within the context of culture and community. These include environmental and occupational health; health care systems organization, management, and policy; social and behavioral sciences for population health; epidemiology; biostatistics.

During the second year of the program, students select one of five following concentrations from the school's four academic departments:

- Epidemiology and Biostatistics
- Community Health and Prevention
- Environmental and Occupational Health
- Health Management and Policy

Throughout the program, group case discussion sessions, case-related activities and didactic sessions are integrated into the experience. These include:

- Resource sessions (both years) provide students with access to the expertise of scholars, institutional directors, and community leaders;
- Case symposia provide opportunities to write collaboratively, build collegial teams, and develop communication and public-speaking skills;
- Site visits (first year) to community agencies, organizations, and health care providers foster an appreciation of public health in a complex urban setting;
- Skill development labs and workshops (year two);
- Public health grand rounds (for all faculty, students, and community partners) provide access to scholars and their cutting-edge research and initiatives in public health.

#### **Curriculum**

The MPH full-time educational program is structured on a quarter-term basis, with a total 64 credit hours required. This is generally taken as a two-year program; all coursework must be completed within four years of the date of matriculation for the full-time program.

The second-year curriculum is composed of four courses in the chosen area of concentration (Biostatistics; Epidemiology; Community Health and Prevention; Environmental and Occupational Health; Health Management and Policy), two elective courses, and the Community-Based Master's Project (CBMP), the culminating experience required of full-time Drexel MPH students.

Students spend approximately 12 hours each week working on a community-oriented, health-related project, often working as an integral part of a community-based organization. This can be in the areas of government, healthcare and social

services, among others. In preparation for developing their final paper, students are required to identify an issue or problem of significance to the target community or agency, synthesize the literature, develop an approach or methodology to address the issue, and either implement and test the validity of a proposed approach or set out a detailed prescription for addressing the problem. Students may also work with faculty in specific research areas.

**Joint Doctor of Medicine and Master of Public Health Degree (MD/MPH)**

Students wishing to complete a course of study earning the joint MD/MPH degree can complete such a program in 5 years. They must apply for the joint program and be accepted by both the Drexel University School of Medicine and the School of Public Health.

Students in this program have enriched public health content in their first two years of medical school and spend their third year of study full time in the School of Public Health. Students are able to enter clinical rotations and residency selection having obtained the MPH degree.

### **Master of Public Health (MPH) Admission Requirements**

The School of Public Health seeks students with intellectual and interpersonal competencies as well as those with potential for leadership. The school has set a high priority on establishing a student body that is representative of the nation's population. We strive to recruit and to admit applicants from underrepresented minority groups who can contribute to the richness of our student population and to that of the nation's public health professionals.

#### **Admissions Process:**

- The Admissions Committee carefully reviews applications and gives personal essays and letters of recommendation particular attention.
- The selection process weighs prior academic and personal accomplishments, emphasizing demonstrated leadership.
- Diversity of background and outside interests, depth of self-appraisal, commitment to public health, and working with individuals are highly valued.
- Prior work experience in a field related to public health is highly recommended.

#### **Applicants Should Have:**

- Satisfactorily completed an undergraduate bachelor degree program in an accredited U.S. college or university, or its equivalent in another country
- A course in Statistics is highly recommended
- Six undergraduate or graduate credits in the social or behavioral sciences and three in the biological sciences are preferred, but not required
- Satisfactory results from one of the following taken within the past five years (the GRE or GMAT is preferred):
  - Graduate Record Examination (GRE)
  - Graduate Management Admission Test (GMAT)
  - Medical College Admission Test (MCAT)
  - Law School Admission Test (LSAT)
- Test of English as a Foreign Language (TOEFL) for applicants whose first language is not English

Please note: Drexel University's School code for submitting GRE scores is 2194.

#### **The Application Process also requires:**

- Completion of the Schools of Public Health Common Application ([www.sophas.org](http://www.sophas.org))
- A personal essay describing what you perceive to be pressing public health issues, why a career in the field appeals to you, and how it will use your strengths and commitment
- Three letters of recommendation
- Resume or CV

Applicants to the joint MD/MPH program must be accepted to both the Drexel College of Medicine and the School of Public Health.

If you have questions, feel free to contact the Office of Enrollment Management at (215) 762-8288, or via email at [enroll@drexel.edu](mailto:enroll@drexel.edu).



### Master of Public Health (MPH) Degree Requirements

The full-time educational program is structured on a quarter term basis, with a total credit hour requirement of 64 quarter credit hours. This is generally taken as a two-year program; all course work must be completed within four years of the date of matriculation for the full-time program.

<b>First Year Courses</b>		<b>31.0 Credits</b>
PBHL 516	<b>Introduction to Public Health</b>	2.0
PBHL 520	<b>Biostatistics</b>	4.0
PBHL 530	<b>Epidemiology</b>	4.0
PBHL 540	<b>Behavioral Assessment</b>	4.0
PBHL 550	<b>Community Assessment</b>	4.0
PBHL 600	<b>Management, Leadership, Assurance in Health Services</b>	3.0
PBHL 640	<b>Environmental Health</b>	4.0
PBHL 650	<b>Public Policy</b>	3.0
	<b>Public Health (PBHL) elective course</b>	3.0

<b>Second Year Courses</b>		<b>33.0 Credits</b>
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Near the end of their first year, students select a concentration area. In their second year, students complete four required concentration courses, two department approved electives and a Community-Based Master's Project relative to their concentration.

PBHL 680	<b>Community Based Master's Project I</b>	4.0
PBHL 681	<b>Community Based Master's Project II</b>	4.0
PBHL 682	<b>Community Based Master's Project III</b>	4.0

#### Required Courses by Concentration

The following required courses must be completed by second-year students based on their concentration.

##### Biostatistics

PBHL 620	<b>Intermediate Biostatistics</b>	3.0
PBHL 622	<b>Introduction to Biostatistics Theory</b>	3.0
PBHL 624	<b>Regression Methods</b>	3.0
PBHL 630	<b>Intermediate Epidemiology</b>	3.0

##### Community Health and Prevention

PBHL 670	<b>Multicultural Competence in Community Health Prevention</b>	3.0
PBHL 671	<b>Theory and Practice of Community Health Promotion</b>	3.0

PBHL 672	<b>Theory and Practice of Health Communication</b>	3.0
PBHL 673	<b>Outcomes Assessment in Community Health and Prevention</b>	3.0

#### **Environmental and Occupational Health**

PBHL 641	<b>Environmental Hazard Assessment</b>	3.0
PBHL 643	<b>Occupational Toxicology</b>	3.0
PBHL 645	<b>Environmental Toxicology</b>	3.0
PBHL 647	<b>Occupational and Environmental Epidemiology</b>	3.0

#### **Epidemiology**

PBHL 620	<b>Intermediate Biostatistics</b>	3.0
PBHL 630	<b>Intermediate Epidemiology</b>	3.0
PBHL 632	<b>Applied Survey Research in Epidemiology</b>	3.0
PBHL 634	<b>Epidemiology for Public Health Practice</b>	3.0

#### **Health Management and Policy**

PBHL 603	<b>The Business of Healthcare: Advanced Healthcare Financial Management</b>	3.0
PBHL 605	<b>Strategy, Innovation and Change Management</b>	3.0
PBHL 609	<b>Emerging issues in U.S. Health Policy</b>	3.0
PBHL 611	<b>Race, Ethnicity and Health</b>	3.0

#### **Electives**

Students are required to successfully complete four electives (12 credits). These courses may be within the School of Public Health, or from other academic units within the University. It is the responsibility of the student to determine course restrictions and the registration process for campus electives taken at the Main Campus. The following is a list of the School of Public Health electives by department: See the School of Public Health's Master of Public Health Full-Time Program Student Handbook for a complete list of approved electives.

#### **Biostatistics**

PBHL 626	<b>Multivariate Linear Models</b>	3.0
PBHL 627	<b>Categorical Data Analysis Methods I</b>	3.0
PBHL 637	<b>Chronic Disease Epidemiology/Social Epidemiology</b>	3.0

#### **Community Health and Prevention**

PBHL 805	<b>Qualitative Research in Community Health</b>	3.0
PBHL 809	<b>Community Health Policy Development and Analysis</b>	3.0

#### **Environmental and Occupational Health**

PBHL 648	<b>Public Health Readiness and Disaster Preparedness</b>	3.0
PBHL 649	<b>Occupational and Environmental Cancers</b>	3.0
PBHL 660	<b>Occupational Health</b>	4.0
PBHL 661	<b>Occupational and Environmental Diseases</b>	3.0

#### **Epidemiology**

PBHL 626	<b>Multivariate Linear Models</b>	3.0
PBHL 627	<b>Categorical Data Analysis Methods I</b>	3.0
PBHL 637	<b>Chronic Disease Epidemiology/Social Epidemiology</b>	3.0

#### **Health Management and Policy**

PBHL 601	<b>The Management of Healthcare Outcomes</b>	3.0
PBHL 607	<b>The Evolution of the U.S. Health System</b>	3.0
PBHL 608	<b>Fundamentals of Disaster Management</b>	3.0

### **About the Executive Master of Public Health Degree**

Modeled on the highly successful full-time MPH program offered by the School of Public Health since 1996, the Executive Program is designed for working professionals, whether in public health or considering a career change to public health, who wish to accelerate or redirect their career. The program is tailored for individuals who are committed to advancing their careers and acquiring the knowledge and tools to advance to leadership roles in public health. The program is fast-paced, intensive and demanding but builds on each individual's former education, work experience and skills.

The MPH Executive Program is designed to enable individuals to acquire their MPH in 21 months with a convenient class schedule and intensive utilization of the internet. The class meets one Friday and one Saturday each month. Between class sessions, students utilize web-based technologies to interact with facilitators and other students with whom they may be collaborating in preparation for the next class. The curriculum is modeled on the highly successful full-time program of the school, and offers the student an intensive experience with each of the disciplines of public health.

Like the full-time MPH Program, the Executive Program covers the major disciplines of public health, including Community Health and Prevention, Environmental and Occupational Health, Epidemiology, Biostatistics, and Health Management and Policy. It is case-based and built upon the Problem Based Learning (PBL) model in which the student becomes a self-directed learner as well as a collaborator in learning with her/his peers, assisted by the faculty facilitator. The PBL model develops in the student a set of skills designed to effectively address the increasingly dynamic, uncertain world in which we live and work and prepares each individual to be an effective life-long learner.

Students also have the opportunity to attend a variety of learning activities at the School of Public Health, including the twice-monthly Public Health Grand Rounds, Resource Sessions, and Workshops. Students in the Executive Program are also encouraged to participate in the School's Student Government Organization, journal clubs and other social events of the School community.

### **Executive Master of Public Health (MPH) Admission Requirements**

The School of Public Health seeks students with intellectual and interpersonal competencies as well as those with potential for leadership. The school has set a high priority on establishing a student body that is representative of the nation's population. We strive to recruit and to admit applicants from underrepresented minority groups who can contribute to the richness of our student population and to that of the nation's public health professionals.

While most of the students in the Executive MPH program are from the Philadelphia area, the format of the program does not limit students from outside of the Philadelphia region from attending.

#### **Admissions process:**

- The Admissions Committee carefully reviews applications and gives personal essays and letters of recommendation particular attention.
- The selection process weighs prior academic and personal accomplishments, emphasizing demonstrated leadership.
- Diversity of background and outside interests, depth of self-appraisal, commitment to public health, and working with individuals are highly valued.
- A minimum of 3 years of professional work experience is required.

#### **Applicants should have:**

- Satisfactorily completed an undergraduate bachelor degree program in an accredited U.S. college or university, or its equivalent in another country
- A course in Statistics is highly recommended
- Six undergraduate or graduate credits in the social or behavioral sciences and three in the biological sciences are preferred, but not required.
- Satisfactory results from one of the following taken within the past five years (the GRE or GMAT is preferred):
  - o Graduate Record Examination (GRE)
  - o Graduate Management Admission Test (GMAT)
  - o Medical College Admission Test (MCAT)
  - o Law School Admission Test (LSAT)
- Test of English as a Foreign Language (TOEFL) for applicants whose first language is not English

#### **The Application Process also requires:**

- Completion of the School's application
- A personal essay describing what you perceive to be pressing public health issues, why a career in the field appeals to you, and how it will use your strengths and commitment
- Three letters of recommendation
- Resume or CV.

If you have questions, feel free to contact the Office of Enrollment Management at (215) 762-8288, or via email at [enroll@drexel.edu](mailto:enroll@drexel.edu).

### **Executive Master of Public Health (MPH) Degree Requirements**

The program requires a minimum of 42 semester credits. All degree requirements must be completed within five years of the date of matriculation.

A minimum of five academic semesters, divided into blocks of residency, is required for the degree. Blocks of enrollment must be continuous unless academic leaves are granted.

#### **Block Course Descriptions**

##### **BLOCK I Introduction to Public Health**

DEPARTMENT: Interdepartmental  
CREDIT HOURS: 2

##### **BLOCK DESCRIPTION:**

Introduction to Public Health introduces the mission, roles, issues, and context of public health, community health, public health, and health systems. Topics include the history and mission of public health as well as a comprehensive exploration of the definition of public health including the essential services and core functions of public health. In addition, the relationships between public health, social justice and human rights are examined. Block I introduces and explores the five disciplines of public health: Epidemiology and Biostatistics, Community Health and Prevention, Environmental and Occupational Health, and Health Management and Policy.

##### **BLOCK LEARNING OBJECTIVES:**

Upon completion of Block 1, students should be able to:

1. Identify and describe core functions and essential services of public health.
2. Achieve familiarity with the various components of the public health system.
3. Understand interrelationships among the system's components.
4. Define important components of the public health system, including participants, inputs, and organizational practices.
5. Describe the organization, provision, and financing of public health services and programs.
6. Understand the historical development, statutory basis, functions and structure of state, local and federal public health agencies.

##### **BLOCK II Biostatistics and Epidemiology I**

DEPARTMENT: Epidemiology and Biostatistics  
CREDIT HOURS: 4

##### **BLOCK DESCRIPTION:**

Biostatistics and Epidemiology I focuses on biostatistics and epidemiology concepts and methods needed to conduct public health research and practice. This block will cover epidemiology as a methodology for thinking about and designing research to address basic questions of interest in health and medicine and to address specific hypotheses regarding risk factors. Specifically, students will understand the science concerned with the occurrence, distribution, and causality of diseases and other health-related conditions in the world. Biostatistics concepts and methods to be covered include techniques for describing and summarizing

observations, for assessing associations among variables, and for determining the extent to which chance may be explaining and/or influencing the observed results.

**BLOCK LEARNING OBJECTIVES:**

Upon completion of Block II, students should be able to:

1. Define, explain, choose among, calculate, and interpret the basic epidemiological rates and ratios.
2. State and explain the logic or research and basic research designs, including their defining features, strengths and weaknesses, and when each is most useful.
3. Describe biases that may affect studies Apply the logic of causal analysis
4. Describe and explain the key human rights/ethical/race-gender issues in research.
5. Define, explain, calculate, choose among, and interpret key descriptive statistics and graphical methods.
6. Explain how the form of a distribution is assessed, including normality and the presence of outliers.
7. Explain and interpret key methods of assessing relationships between variables, such as 2 and 3-way tables, and regression/correlation methods.
8. Explain and interpret the basic logic of statistical hypothesis testing. Define, explain, choose among, and interpret basic statistical methods.
9. Interpret and apply confidence intervals and standard errors.
10. Calculate selected confidence intervals.
11. Define and explain statistical power.

**BLOCK III Biostatistics and Epidemiology II**

DEPARTMENT: Epidemiology and Biostatistics

CREDIT HOURS: 4

**BLOCK DESCRIPTION:**

Epidemiology and Biostatistics II continues students' introduction to the basic methods and skills of two core disciplines of public health; Biostatistics and Epidemiology, which were begun in Block II. This block provides opportunities to apply statistical and epidemiological methods in a more advanced and integrated way, to further understand causes of and possible solutions for public health problems. Key biostatistics methods and epidemiologic concepts covered during Block III include types of rates, rate calculations, rate adjustments, data display and interpretation, two-way ANOVA and Kaplan Meier survival curves. In addition, survey methodology, questionnaire design, data collection, sampling methods and sample size are critical areas of focus.

**BLOCK LEARNING OBJECTIVES:**

Upon completion of Block III, students should be able to:

1. Demonstrate knowledge of data sources on morbidity, mortality, fatality, population characteristics, and how to apply such information to characterize health status of populations.
2. Formulate hypotheses select an appropriate statistical method to test hypotheses.
3. Use visual methods for exploring the independent and combined effects of several risk factors on public health outcomes.
4. Understand how multivariate methods can be used to simultaneously study the effects of two or more risk factors on an outcome.
5. Use two-way analysis of variance as an example of a multivariate method to statistically test for main effects of risk factors.
6. Critique research articles in terms of their experimental design, methods of analysis, and the validity of their conclusions.
7. Calculate sensitivity, specificity, and predictive values to determine the value of diagnostic or screening test in a population.
8. Understand issues of reliability, validity, and sensitivity in designing and conducting surveys to assess health status and risk factors in a population.
9. Formulate the basic design of a randomized trial.

## **BLOCK IV Health Behavior and Health Promotion**

DEPARTMENT: Community Health and Prevention  
CREDIT HOURS: 4

### **BLOCK DESCRIPTION:**

Health Behavior and Health Promotion introduces principles of health behavior in context of the human life cycle and covers their application to prevention and health promotion programs in a community context. This interdisciplinary block focuses on how individuals and groups approach issues of health behavior, health communication, and health promotion. The goal is to acquire basic knowledge of social and behavioral science theories, models, and research methods. The human rights framework will be introduced to analyze and create public health interventions and policies. Block IV addresses ways in which class, culture, gender and age factors influence an individual's encounter with health-related issues throughout the life course. Students will be expected to critically analyze the theories and models as they explore the experiences of individuals in different developmental stages, groups, and communities in a variety of settings. Students will also have the opportunity to create a behavioral intervention with a team of peers, and to simulate the experience of presenting at a professional conference.

### **BLOCK LEARNING OBJECTIVES:**

Upon completion of Block IV, students should be able to:

1. Distinguish between behaviors that foster and those that hinder well-being.
2. Infer needs for health education on the basis of obtained data.
3. Select methods and media best suited to implement programs and plans.
4. Interpret concepts, purposes and theories of health education.
5. Predict the impact of societal value systems on individual health behaviors.
6. Exhibit an understanding of developmental stages.
7. Exhibit an understanding of cultural influences on health behavior.
8. Exhibit an understanding of the principles of community organizing to promote healthy communities

## **BLOCK V Community Health Assessment**

DEPARTMENT: Community Health and Prevention  
CREDIT HOURS: 4

### **BLOCK DESCRIPTION:**

Community Health Assessment consists of 4 cases and a 4-week Service-Learning workshop. Block V has an interdisciplinary foundation focused on strategies designed to provide students with the competencies needed to enhance the health of the community. During the first four weeks of Block V, concepts and theories regarding planned change and models of community organization for health promotion are critically examined. Critical in this Block is the role of empowerment in the context of community health, and the central role of community residents in the identification of local issues, goals, and priorities affecting their lives and neighborhoods. The final four weeks of Block V are devoted to exploring and experiencing Service-Learning concepts in the context of public health.

### **BLOCK LEARNING OBJECTIVES:**

Upon completion of Block V, student should be able to:

1. Obtain health-related data about social and cultural environments, growth and development factors, needs and interests
2. Infer needs for health education on the basis of obtained data.
3. Infer enabling objectives as needed to implement instructional programs in specific settings.
4. Select methods and media best suited to implement program plans for specific learners.



5. Utilize computerized health information retrieval systems effectively. Interpret concepts, purposes and theories of health education.
6. Select a variety of communication methods and techniques in providing health information.

### **BLOCK VI Management, Leadership, Assurance, and Health Services**

DEPARTMENT: Health Management and Policy

CREDIT HOURS: 4

#### **BLOCK DESCRIPTION:**

Management, Leadership, Assurance, and Health Services is a block that explores the critical elements of the assurance role of public health. Block VI is based on the premise that effectiveness of program delivery and the public health assurance require an understanding of organizations, leadership, and change in the context of economics, strategy & systems. The goal of Block VI is to learn, integrate and apply fundamental theoretical concepts of Economics, Organizational Theory, Law, Communications and Strategy within an integrated management paradigm. In addition, different organization and management styles within the community health system are explored. This is accomplished through presentations and reinforcement of an integrated management paradigm with cases and supporting reports, symposia, and examinations designed to identify, integrate and reinforce basic principles of management.

#### **BLOCK LEARNING OBJECTIVES:**

Upon completion of Block VI, students should be able to:

1. Demonstrate an ability to use an integrated conceptual paradigm for organizational management and accountability.
2. Demonstrate a working knowledge of health economics – integrating concepts and principles underlying consumer market and demand.
3. Demonstrate a working knowledge of health economics – integrating concepts and principles underlying supply-side and market-based economic analysis.
4. Demonstrate an understanding of organizational behavior and the bases for employee motivation, organizational leadership, and the management of organizational change to achieve defined objectives.
5. Demonstrate an understanding of complex organizational environments and associated management challenges.
6. Demonstrate an understanding of strategic management, within the overall context of Porter's theory of strategic management.

### **BLOCK VII Program Planning, Implementation and Evaluation**

DEPARTMENT: Community Health and Prevention

CREDIT HOURS: 4

#### **BLOCK DESCRIPTION:**

Program Planning, Implementation and Evaluation emphasizes program development in the context of community-identified needs. The block content is built on the premise that the health-assurance role of public health begins with program planning, development, implementation and evidence-based practice. Block VII critically examines models of program planning, implementation and evaluation and introduces students to the theoretical and practical aspects of planning and evaluating programs. Thus it includes direct service, surveillance, communication campaigns, policy development initiatives, research initiatives and administrative activities. The multidisciplinary perspectives presented in this series of cases demonstrate the importance of individuals, communities, corporations, agencies and institutions to intentionally and thoughtfully work together. These cases highlight the importance of integrating all aspects of a community to make for a holistic society. It is in this holistic integration that citizens will have the capacity to achieve their full potential.

#### **BLOCK LEARNING OBJECTIVES:**

Upon completion of Block VII, students should be able to:

1. Understand the role of advocacy in program planning & program evaluation
2. Formulate appropriate and measurable program objectives
3. Design educational programs consistent with specified program objectives.
4. Develop plans to assess achievement of program objectives
5. Formulate appropriate evaluation plans
6. Interpret results of program evaluation
7. Infer implications from findings for future program planning
8. Select effective educational resource materials for dissemination
9. Interpret concepts, purposes and theories of health education
10. Understand the importance of community involvement during each phase of a program.
11. Understand that evaluation is a critical consideration in the planning and implementation phases of a program.
12. Understand that evaluation is an on-going process.
13. Understand the steps in program evaluation.
14. Evaluate models for conducting effective evaluations.
15. Conceptualize the purpose and framework for conducting an evaluation.
16. Define the components of evaluation including selection of proper design, appropriate measures, collection, analysis, and reporting of data.
17. Utilize evaluation findings to refine and maintain programs and in policy analysis and development.

#### **BLOCK VIII Independent Study - Public Health Research Paper**

DEPARTMENT: Interdepartmental

CREDIT HOURS: 4

##### **BLOCK DESCRIPTION:**

The Public Health Research Paper is an opportunity for students to work on an independent research paper in a topic area that is decided upon by the student in conjunction with a faculty advisor. This paper is expected to reflect the students' year long effort in critically analyzing the relevant literature, and carefully crafting an educated and realistic response to an identified public health issue. The paper is the culmination of the students' experience in the Executive Program.

##### **BLOCK LEARNING OBJECTIVES:**

Upon completion of Block VIII – Independent Study/Public Health Research Paper, students should be able to:

1. Identify and define a problem and formulate a testable hypothesis
2. Select, develop, and conduct an appropriate literature review.
3. Provide their faculty Advisor with a detailed outline of their report and a completed literature review.
4. Produce a timeline that reflects the strategy being used for the completion of their Research
5. Produce a report that reflects the following:
  - a. Appropriate use of data and statistical methods for problem identification and resolution and program planning, implementation, and evaluation.
  - b. An understanding of how data illuminate ethical, political, scientific, economic, and overall public health issues.
  - c. Relevant inferences from data.
  - d. A significant advance in a field of public health.

#### **BLOCK IX Environmental & Occupational Health**

DEPARTMENT: Environmental & Occupational Health

CREDIT HOURS: 4

##### **BLOCK DESCRIPTION:**

Environmental & Occupational Health introduces concepts, theories, and programmatic applications within the fields of environmental and occupational health. The goal of Block IX is to understand basic concepts and principles of

environmental and occupational health and their application to public health practice from individual, organizational, political, legal, and community perspectives. The cases provide students with the opportunity to link environmental and occupational health issues with health promotion strategies through a systems approach.

**BLOCK LEARNING OBJECTIVES:**

Upon completion of Block IX, students should be able to:

**Environmental Health**

Describe the framework for and major pieces of legislation behind regulations in environmental and occupational health;

1. Discuss the potential and actual impacts of the environment on the health of individuals and communities;
2. Propose the role of advocacy and justice in environmental health; Explain the principles of how and why environmental risk is perceived;
3. Discuss factors of risk communication in program planning;
4. Describe the basic mechanism of exposure to environmental hazards;
5. Propose basic control strategies for common environmental hazards; and
6. Describe the components of an exposure history

**Occupational Health**

1. Discuss the laws and regulations protecting worker health and safety;
2. Examine occupational hazards and their impact on health;
3. Describe interventions used to eliminate or reduce workplace hazards;
4. Discuss the extent of work-related injuries and illnesses;
5. Discuss the economic impact on health status; and
6. Describe approaches to promote occupational health & safety programs.

**BLOCK X Health Policy and Advocacy: Integration**

DEPARTMENT: Health Management and Policy  
CREDIT HOURS: 4

**BLOCK DESCRIPTION:**

Health Policy and Advocacy: Integration introduces the fundamentals of public health law and the concepts and theories of health policy development, adoption, and evaluation. Block X covers the advocacy process and its importance to the development of sound public health policy. Systemic integration and understanding of the assessment, assurance and policy development roles are emphasized in the community and political context. Throughout the block, students will learn about the process of policy analysis and formulation and how to influence the policy process to accomplish their objectives for policy intervention.

**BLOCK LEARNING OBJECTIVES:**

Upon completion of Block X, students should be able to:

1. Discuss public policy goals/solutions within the political context of equity, efficiency, security, and liberty.
2. Discuss public policy goals/solutions utilizing economic concepts of Pareto optimality, Utilitarian and Rawlsian perspectives.
3. Discuss public policy goals/solutions within the legal framework of
4. Constitutional, Statutory, and Case law as well as federal and federal-state levels.
5. Perform a policy analysis by identifying (1) policy goals, (2) policy problems and (3) potential solutions.
6. Perform a decision-making process for public policy interventions within the constraints of market failures and social welfare functions.
7. Discuss intervention strategies, tactics and communications in the context of policy process.

8. Apply the iron triangle principle regarding advocates.
9. Describe and analyze the policy process from the perspective of the "Garbage Can Model."
10. Describe and analyze the limits and constraints of policy solutions to public health goals.

### **BLOCK XI Integrated Public Health Case Analysis**

DEPARTMENT: Environmental & Occupational Health  
CREDIT HOURS: 4

#### **BLOCK DESCRIPTION:**

This is the capstone course of the Executive MPH. Students will work in small groups to conduct a case analysis and a case development assignment focusing on current public health issues which are multidisciplinary. All core disciplines will be examined as influences on the problem and possible solutions.

### **About the Doctor of Public Health in Community Health and Prevention**

Drexel University's School of Public Health offers a doctoral program in Community Health and Prevention, leading to the doctor of public health (DrPH) degree. The mission of the School of Public Health is to promote health and quality of life through graduate education, applied research, and community service in the prevention and control of disease, injury, and disability. The DrPH program in Community Health and Prevention builds upon the unique strengths of the School of Public Health, including the master's program in public health, a multidisciplinary faculty, and institutional resources.

The goal of the DrPH program in Community Health and Prevention is to produce doctoral-level public health graduates who exhibit a broad-based, systemic understanding of public health and are committed to effecting meaningful change in public and/or community health systems. Integrating applied research, education, service, and advocacy, the program emphasizes the application of interdisciplinary, theoretical, and applied research paradigms to the understanding and prevention of public health problems.

The DrPH program in Community Health and Prevention is structured as follows: *required courses*, which build core competencies in community health and prevention; *elective courses*, which develop specific areas of expertise; the *comprehensive exam* which reassures student understanding and application of core public health competencies; the *practicum*, which structures the application of concepts and methods to solving public health problems; and the *dissertation*, which showcases the student's competency in applied research. This general framework is infused with community public health practice, rigorous qualitative and quantitative applied research methods, and skilled advocacy.

### **Developing Core Competencies for Understanding and Solving Public Health Problems**

Students in the DrPH program in Community Health and Prevention are expected to attain five core competencies for understanding and solving specific public health problems. The core competencies for the DrPH program integrate public health competencies developed by the Council on Linkages between Academia and Public Health Practice\* with the unique characteristics of the faculty of the Department of Community Health and Prevention and the practice community.

The five core competencies are as follows:

- Understand the mission, goals, and strategies of community health and prevention
- Understand and assess community health status and needs
- Understand and assess individual and environmental determinants of health
- Design, implement, and evaluate public health programs and policies
- Translate findings into policy recommendations and advocate for change

*\*The Council on Linkages between Academia and Public Health Practice represents national public health academic and practice organizations including the American Public Health Association, the Association of Schools of Public Health, and the Centers for Disease Control and Prevention.*

### **Doctor of Public Health (DrPH) Admission Requirements**

Admission to the doctor of public health program in Community Health and Prevention is competitive. Students who demonstrate an ability to integrate public health competencies and skills into public health practice are preferred.

Applicants to the DrPH program must meet the following requirements:

- A master's of public health degree (MPH) or a master's degree in a related field
- Documented evidence of applied research
- Potential for a high level of performance in the DrPH program and for significant contributions to the field of public health.

To qualify for admission, the applicant must present a portfolio that includes:

- Undergraduate and graduate transcripts;
- GRE General Test (verbal, quantitative, analytical writing);
- Evidence of applied research skills (master's thesis, master's research paper, or publication);
- Three letters of recommendation, including one from a public health practitioner; and
- A written statement of career and educational goals, professional experience, and area of interest for the dissertation.

An in-person or telephone interview is required of all finalists.

For more information, contact the Academic Coordinator for the School of Public Health/DrPH Program, Drexel University, 245 N. 15th Street, MS 660, Philadelphia, PA 19102-1192, 215-762-2572.

### Doctor of Public Health in Community Health and Prevention (DrPH)

#### Degree Requirements

Completion of the DrPH program requires the following:

- 60 quarter credit hours of coursework beyond the master's degree (30 credits of required coursework; 9 credits of elective courses; a 3 credit practicum; and 12 credits for the dissertation). Coursework covers the theory and practice of community health and prevention, health and human rights, community health interventions, qualitative research methods, community epidemiology, statistical methods for prevention research, program evaluation, health policy development and analysis, and leadership and advocacy;
- a minimum cumulative grade point average of 3.3;
- completion of the a practicum experience;
- passage of the doctoral comprehensive/candidacy examination; and
- completion of a dissertation that is highly relevant to community health practice and involves applied research, policy analysis, or management analysis.

All coursework is designed to develop the five core competencies of community health and prevention.

#### Electives

The 9 credits of elective coursework enable doctoral students to expand and enhance skills within specific areas of competency. New courses are developed and added regularly, based on interests of faculty and students. Three electives (indicated by an \*) are highly recommended.

Note: Students are not limited to the electives offered by the DrPH program. Each student is encouraged to choose electives that maximize the fit between the student's educational objectives and opportunities throughout the University.

#### Curriculum

School Required Courses		15.0 Credits
PBHL 620	Intermediate Biostatistics	3.0
PBHL 630	Intermediate Epidemiology	3.0
PBHL 632	Applied Survey Research in Epidemiology	3.0
PBHL 802	Health and Human Rights	3.0
PBHL 804	Research Methods for Community Health and Prevention	3.0

Department Required Courses		21.0 Credits
PBHL 801	Theory and Practice of Community Health and Prevention	3.0
PBHL 803	Public Health Interventions: Theory, Practice and Research	3.0
PBHL 805	Qualitative Research in Community Health	3.0
PBHL 808	Community Program Evaluation	3.0

PBHL 809	<b>Community Health Policy Development and Analysis</b>	3.0
PBHL 824	<b>Public Health Ethics</b>	3.0
PBHL 814	<b>Community-Based Participatory Research</b>	3.0

**Practicum** **3.0 Credits**

PBHL 810	<b>Practicum in Community Health and Prevention</b>	3.0
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**Dissertation Sequence** **12.0 Credits Minimum**

PBHL 901	<b>Dissertation Seminar I</b>	5.0
PBHL 902	<b>Dissertation Seminar II</b>	5.0
PBHL 998	<b>Dissertation Guidance</b>	1.0 - 6.0

**Electives** **9.0 Credits**

PBHL 822	<b>Independent Study in Community Health and Prevention: Leadership*</b>	3.0
PBHL 822	<b>Independent Study in Community Health and Prevention: Public Health Ethics*</b>	3.0
PBHL 670	<b>Multicultural Competence in Community Health and Prevention</b>	3.0
PBHL 671	<b>Theory and Practice of Community Health Promotion</b>	3.0
PBHL 672	<b>Theory and Practice of Health Communication</b>	3.0
PBHL 673	<b>Outcome Assessment in Community Health and Prevention</b>	3.0
PBHL 806	<b>Community Epidemiology</b>	3.0
PBHL 807	<b>Analytic Methods for Community Health and Prevention</b>	3.0
PBHL 814	<b>Community Based Participatory Research</b>	3.0
PBHL 815	<b>Community Participation in Decision Making</b>	3.0
PBHL 817	<b>Economic Evaluation Methods for Community Health and Prevention</b>	3.0
PBHL 818	<b>Community Nutrition and Food Politics</b>	3.0
PBHL 819	<b>Understanding and Preventing Domestic Violence</b>	3.0
PBHL 820	<b>Adolescent Risk Behavior in a Developmental Context</b>	3.0
PBHL 821	<b>Public Health Practice in and with Latino Communities</b>	3.0
PBHL 822	<b>Independent Study in Community Health and Prevention</b>	1.0 - 3.0

\*This is a highly recommended elective.



### **About the Doctor of Public Health in Health Policy and Social Justice**

Drexel University's School of Public Health offers a doctoral program in Health Policy and Social Justice, leading to the doctor of public health (DrPH) degree.

The mission of the School of Public Health is to promote health and quality of life through graduate education, population-based research, and community service in the prevention and control of disease, injury and disability and the maintenance of health and quality of life. Effective public health practice is built on a foundation of effective programs and health policy and necessitates long-term partnerships with community, organizations and regulatory bodies.

Inequities based on social group memberships, including race, ethnicity, gender, sexual orientation and class, are well documented in the scientific literature. Equally alarming are disparities in access to health care and health outcomes based on race, ethnicity and other social indicators. Graduates of the DrPH in Health Policy and Social Justice will generate new knowledge about social justice and will use this knowledge in the analysis, evaluation and modification of existing policy as well as the design and delivery of new policy affecting public health practice.

The DrPH in Health Policy and Social Justice will prepare students to play strong professional roles in developing and implementing policies that improve public health by focusing on those who are most vulnerable. By studying important racial and ethnic, social class and gender differences within the larger social justice framework, students will emerge from the program with a sound theoretical and practical foundation for critical scholarship in health disparities, cultural competency and social justice. Furthermore, they will gain the tools to implement effective policies in both public and private health sectors.

### **Developing Core Competencies for Understanding and Solving Public Health Problems**

Core competencies for providing public health service have been developed and promulgated by the Council on Linkages between Academia and Public Health Practice. Students in the DrPH program in Community Health and Prevention are expected to attain core competencies for understanding and solving specific public health problems with particular emphasis on policy. These core competencies include the ability to:

1. Monitor health status to identify community health problems
2. Diagnose and investigate health problems and health hazards in the community
3. Inform, educate, and empower people about health issues
4. Develop policies and plans that support individual and community health efforts
5. Assure a competent public health and personal health care workforce
6. Evaluate effectiveness, accessibility, and quality of personal and population-based health services
7. Research for new insights and innovative solutions to health problems
8. Apply social justice and human rights principles when addressing community needs
9. Apply the principles of community-based participatory research to improve health in diverse populations

10. Develop public health programs and strategies responsive to the diverse cultural values and traditions of the communities being served
11. Search and critically evaluate the literature, synthesize information, identify gaps, formulate a statement of a research problem and hypotheses
12. Use appropriate methods of measurement and appropriate statistical approaches
13. Interpret research results and make appropriate inferences recognizing limitations
14. Communicate results orally and in writing to scientists and non-scientists, and place findings in appropriate public health and health policy context.

### **Doctor of Public Health (DrPH) in Health Policy and Social Justice Admission Requirements**

Applicants to the DrPH Program in Health Policy and Social Justice must meet the following requirements:

- MPH degree or master's degree in a related field.
- Potential for high level of performance in the DrPH Program and subsequent contributions to the field of Public Health Policy.

Students will be admitted on a competitive basis, and those with a demonstrated ability to integrate public health competencies and skills into public health practice will be preferred. The admission portfolio will include: undergraduate and graduate transcript, three letters of recommendation from faculty or professionals who can evaluate the applicant's promise as a graduate student, official Graduate Record Examination scores, and a written statement of career and educational goals, professional experience, and area of research interest.

An in-person or telephone interview is required of all finalists.

For more information, contact the Administrative Coordinator for the School of Public Health/DrPH Program, Drexel University, 245 N. 15th Street, MS 660, Philadelphia, PA 19102-1192, 215-762-4110.

### Doctor of Public Health (DrPH) in Health Policy and Social Justice

#### Degree Requirements

Completion of the DrPH in Health Policy and Social Justice requires the following:

- 60 quarter credit hours of coursework beyond the master's degree (33 credits of required coursework; 12 credits of elective course; a 3 credit practicum; and 12 credits for the dissertation).
- a minimum cumulative grade point average of 3.3;
- completion of the a practicum experience;
- passage of the doctoral comprehensive/candidacy examination; and
- completion of a dissertation that involves applied research, policy analysis, or management analysis.

All coursework is designed to develop the core competencies of health policy and social justice.

#### Electives

The 12 credits of elective coursework enable doctoral students to expand and enhance skills within specific areas of competency. New courses are developed and added regularly, based on interests of faculty and students. Students are not limited to the electives offered by the DrPH program. Each student is encouraged to choose electives that maximize the fit between the student's educational objectives and opportunities throughout the University.

#### Curriculum

School Required Courses		15.0 Credits
PBHL 620	Intermediate Biostatistics	3.0
PBHL 630	Intermediate Epidemiology	3.0
PBHL 632	Applied Survey Research in Epidemiology	3.0
PBHL 802	Health and Human Rights	3.0
PBHL 804	Research Methods for Community Health and Prevention	3.0

Department Required Courses		18.0 Credits
PBHL 615	Perspectives on Gender, Race, Ethnicity and Social Class	3.0
PBHL 617	Health Disparities	3.0
PBHL 618	Historical and Contemporary Developments in Social Justice	3.0
PBHL 851	Health Systems Policy Analysis	3.0
PBHL 853	Applied Health Economics: Technology Assessment and Economic Evaluation	3.0
PBHL 805	Qualitative Research in Community Health	3.0
or		
PBHL 855	Health Services Research	3.0

<b>Practicum</b>		<b>3.0 Credits</b>
PBHL 810	<b>Practicum in Community Health and Prevention</b>	3.0

<b>Dissertation</b>		<b>12.0 Credits (minimum)</b>
PBHL 998	<b>Dissertation Guidance</b>	1.0 - 6.0
PBHL 998	<b>Dissertation Guidance</b>	1.0 - 6.0
PBHL 998	<b>Dissertation Guidance</b>	1.0-6.0

<b>Electives</b>		<b>12.0 Credits</b>
<b>In consultation with their advisors, students select elective courses appropriate for their educational goals. These courses may be from the School of Public Health or may be offered by other schools and colleges at Drexel University.</b>		
PBHL 619	<b>Decision Analysis in Public Health and Medicine</b>	3.0

### **About the PhD in Epidemiology**

The PhD in Epidemiology prepares students to approach problems with the critical analytic skills necessary for the generation of substantial and significant epidemiologic questions, and to utilize the most rigorous and parsimonious research strategies to answer such questions. Additionally, integral values of the Department and School will infuse students with the commitment to pursue important and innovative topics of inquiry even when faced with methodological challenges, and to undertake studies that generate knowledge applicable to diverse social, ethnic, and geographically defined populations.

For additional information about the program, visit Drexel's School of Public Health web site.

### **PhD in Epidemiology Admission Requirements**

Applicants to the PhD program in Epidemiology must meet the following requirements:

- MPH degree or master's degree in epidemiology or a related field.
- Potential for high level of performance in the PhD program and subsequent contributions to the field of epidemiology.

The application package will include:

- undergraduate and graduate transcripts,
- three letters of recommendation from faculty or professionals who can evaluate the applicant's promise as a graduate student
- official Graduate Record Examination scores (no other standardized test accepted for this program),
- a written statement of career and educational goals, professional experience, and area of research interest.

An in-person or telephone interview is required of all finalists.

All entering students are expected to have already completed introductory and intermediate level epidemiology and biostatistics courses (equivalents of PBHL 520, 530, 620, 630) as part of their Master's program or must enroll in these courses, or their equivalents, as additional requirements.

### PhD in Epidemiology

68.0 credits

#### Degree Requirements

Completion of the PhD in Epidemiology requires: (1) a minimum of 68 quarter credit hours of course work beyond the master's degree; (2) a minimum cumulative grade point average of 3.3; (3) passing the doctoral comprehensive examination; (4) passing the candidacy oral examination; (5) completing a dissertation of publishable quality; and (6) passing the final defense.

A student in the PhD degree program shall have five calendar years from the date of initial registration to complete and successfully defend a dissertation.

#### Electives

All students must complete two epidemiology area electives, two biostatistics area electives, and two additional electives. For their additional electives, students can choose from many different epidemiology or biostatistics courses, or from other graduate-level courses across the university which have been identified as possible electives.

#### Curriculum

<b>School of Public Health Core Courses</b>		<b>9.0 Credits</b>
PBHL 632	<b>Applied Survey Research in Epidemiology</b>	3.0
PBHL 802	<b>Health and Human Rights</b>	3.0
PBHL 804	<b>Research Methods for Community Health and Prevention</b>	3.0
<b>Departmental Required Courses</b>		<b>34.0 Credits</b>
PBHL 621	<b>Intermediate Biostatistics II</b>	3.0
PBHL 636	<b>Infectious Disease Epidemiology</b>	3.0
PBHL 830	<b>Advanced Epidemiology</b>	3.0
EDUC 531	<b>College Teaching and Communication Skills</b>	1.0
PBHL 831	<b>Doctoral Seminar in Epidemiology</b>	6.0
PBHL 998	<b>Dissertation Research</b>	18.0
<b>A minimum of two Epidemiology Area electives:</b>		<b>6.0 Credits</b>
PBHL 633	<b>Cancer Epidemiology</b>	3.0
PBHL 634	<b>Epidemiology for Public Health Practice</b>	3.0
PBHL 635	<b>Social and Psychiatric Epidemiology</b>	3.0
PBHL 638	<b>Perinatal Epidemiology</b>	3.0
PBHL 639	<b>Cardiovascular Disease Epidemiology</b>	3.0
<b>A minimum of two Biostatistics Area electives:</b>		<b>6.0 Credits</b>
PBHL 622	<b>Introduction to Biostatistics Theory</b>	3.0
PBHL 623	<b>Biostatistics Computing</b>	3.0



PBHL 625	<b>Longitudinal Data Analysis</b>	3.0
PBHL 628	<b>Survival Analysis</b>	3.0
PBHL 629	<b>Design and Analysis of Clinical Trials</b>	3.0

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**A minimum of two additional electives\*** **6.0**  
**Credits**

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**\*The balance of credits toward the degree minimum of 68 can be achieved by additional elective and/or dissertation credits.**

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### Certificate in Epidemiology and Biostatistics

9.0 credits

#### About the program

The Certificate in Epidemiological and Biostatistical Principles and Methods for Public Health in the Twenty-First Century, offered by Drexel University's School of Public Health, is an interdisciplinary program designed for working professionals of diverse backgrounds, including public health administrators, physicians, nurses, clinical research professionals, health educators, and policy experts.

Never before has disease prevention and health promotion been more important. As world events develop, with the added threat of bioterrorism and other emerging public health issues, those who can apply knowledge gained through research to real-world problems are in great demand across all sectors: health care, pharmaceuticals, governmental and non-governmental agencies, business, and academia.

The certificate program is supervised by the School of Public Health's director of eLearning and the department chair. The program is administered through Drexel eLearning. Applications to the certificate program are managed by Drexel eLearning. For the most current admission information, please visit [www.drexel.com](http://www.drexel.com).

#### About the curriculum

The certificate program provides research-oriented training in the theory and tools of core public health disciplines. Students build the statistical background needed to conduct research, develop hypotheses, analyze data, and interpret and communicate results.

The certificate program consists of three sequential 3-credit courses. Each course is taught over a 10-week period, allowing completion of the certificate within a 30-week period. The curriculum reflects core epidemiological and biostatistical concepts and practices in a similar manner to the full-time and Executive MPH programs. Contact between faculty and students creates an intense experience over this exclusively online format. The online format allows asynchronous learning while providing flexibility for adult learners constrained by physical and time limitations.

Requirements		9.0 Credits
PBHL 701	Introduction to Descriptive Epidemiology and Biostatistics	3.0
PBHL 702	Introduction to Analytic Epidemiology and Biostatistics	3.0
PBHL 703	Design and Analysis of Epidemiological Studies	3.0

#### Additional information

For more information about the program, visit the Certificate in Epidemiology & Biostatistics on the Drexel Online web site.