

GSPH Course Descriptions

October 29, 2018

BCHS 2135 LEADERSHIP**Credit(s): 03.0**

THIS COURSE EXAMINES THEORIES ABOUT LEADERSHIP AND PROVIDES STUDENTS WITH FEEDBACK ON THEIR OWN LEADERSHIP STYLES. LEADERSHIP SKILLS ARE DEFINED AND APPLIED. TEAMS, AS ONE CONTEXT FOR DEMONSTRATING LEADERSHIP, ARE EXPLORED IN DEPTH AND METHODS FOR RECOGNIZING AND MANAGING GROUP DYNAMICS ARE INTRODUCED. CONCEPTS REGARDING ORGANIZATION LEADERSHIP ARE INTRODUCED. THE COURSE COMBINES THEORY WITH PRACTICAL APPLICATION. IT IS HIGHLY PARTICIPATIVE AND STUDENTS ARE EXPECTED TO JOIN IN A WIDE RANGE OF EXERCISES AND SIMULATIONS. THE TWO MAJOR ASSIGNMENTS REQUIRE THAT THE STUDENTS WORK IN TEAMS WITH OTHER STUDENTS.

BCHS 2503 PRACTICUM**Credit(s): 01.0 to 03.0**

SHORT TERM FIELD PLACEMENT RELEVANT TO THE STUDENT'S AREA OF INTEREST IN AN OPERATING ORGANIZATION OR AGENCY.

BCHS 2504 OVERVIEW HEALTH COMMUNICATION**Credit(s): 03.0**

HEALTH COMMUNICATION IS THE "ART AND TECHNIQUE OF INFORMING, INFLUENCING, AND MOTIVATING INDIVIDUAL, INSTITUTIONAL AND PUBLIC AUDIENCES ABOUT IMPORTANT HEALTH ISSUES. THE SCOPE OF HEALTH COMMUNICATION INCLUDES DISEASE PREVENTION, HEALTH PROMOTION, HEALTH CARE POLICY AND THE BUSINESS OF HEALTH CARE AS WELL AS ENHANCEMENT OF THE QUALITY OF LIFE AND HEALTH OF INDIVIDUALS IN THE COMMUNITY". THIS CLASS WILL INTRODUCE THE THEORIES AND RESEARCH THAT UNDERLIE HEALTH COMM. THE COURSE WILL EXAMINE HEALTH COMMUNICATION CAMPAIGNS, PLANNING HEALTH COMM. AND DEVELOPING A HEALTH COMM. CAMPAIGN.

BCHS 2509 SOCL BEHVRL SCI & PUBLIC HLTH**Credit(s): 03.0**

THE CORE COURSE PROVIDES AN OVERVIEW OF THE SOCIAL AND BEHAVIORAL SCIENCES AND THEIR IMPORTANCE IN THE INTER-DISCIPLINARY FIELD OF PUBLIC HEALTH. A PRIMARY EMPHASIS IS ON THE SOCIAL-ECOLOGICAL MODEL, ITS APPLICATION TO PUBLIC HEALTH ISSUES, AND ITS USE IN THE DEVELOPMENT OF POLICIES, STRATEGIES, INTERVENTIONS AND PROGRAMS. THE COURSE CONTENT WILL INTRODUCE STUDENTS TO SEVERAL RELEVANT SOCIAL AND BEHAVIORAL THEORIES AS WELL AS A RANGE OF COMMUNITY HEALTH ASSESSMENT AND PLANNING MODELS USED BY PUBLIC HEALTH PROFESSIONALS IN BOTH DOMESTIC AND INTERNATIONAL VENUES. THROUGH A SERIES OF ASSIGNED READINGS, DISCUSSION EXERCISES, GROUP PROJECTS, QUIZZES AND WRITTEN ASSIGNMENTS, STUDENTS WILL ENHANCE THEIR KNOWLEDGE AND AWARENESS OF THE ROLE OF SOCIAL AND BEHAVIORAL SCIENCES IN PUBLIC HEALTH AND ITS RELEVANCE TO THEIR SPECIFIC DISCIPLINE. AT THE CONCLUSION OF THE COURSE STUDENTS WILL BE ABLE TO: IDENTIFY THE IMPORTANT SOCIAL AND BEHAVIORAL DETERMINANTS OF HEALTH; DESCRIBE THE INTER-RELATIONSHIPS BETWEEN THE SOCIAL, BEHAVIORAL, BIO-MEDICAL, PHYSIOLOGICAL, AND ENVIRONMENTAL FACTORS RELATED TO INDIVIDUAL AND COMMUNITY HEALTH; IDENTIFY THE MAJOR HEALTH DISPARITIES RELATED TO SOCIAL, BEHAVIORAL AND ECONOMIC FACTORS; DESCRIBE THE ROLE OF CULTURE AND SOCIO-ECONOMIC STATUS IN HEALTH BEHAVIOR, ACCESS TO SERVICES, AND DECISION-MAKING; AND UNDERSTAND THE IMPORTANCE OF COMMUNITY PARTNERSHIPS AND PARTICIPATORY APPROACHES IN THE DEVELOPMENT, IMPLEMENTATION, MANAGEMENT AND EVALUATION OF COMMUNITY POLICIES AND PROGRAMS.

BCHS 2511 INDEPENDENT STUDY**Credit(s): 01.0 to 03.0**

STUDENTS WITH MAJOR INTERESTS IN SPECIALTY AREAS PARTICIPATE IN COURSES OF INDIVIDUAL STUDY, RESEARCH ACTIVITIES, OR ADVANCED READINGS WITH A SPECIFIED FACULTY MEMBER

BCHS 2515 WORKSITE HEALTH PROMOTION**Credit(s): 02.0**

This course covers the design and implementation of worksite health promotion programs. The course will examine both the benefits of worksite health promotion and the challenges of implementing a meaningful program. Students will review various planning models and plan theory-based incentive programs designed to promote health within the worksite setting.

[New course for spring 2016, term 2164.]

BCHS 2520 THEORIES OF HLTH BHVR & HLTH ED**Credit(s): 01.0**

THE COURSE IS DESIGNED AS AN INTRODUCTION TO THE MAJOR THEORIES THAT ARE THE FOUNDATION FOR MOST HEALTH PROMOTION AND HEALTH EDUCATION INTERVENTIONS. IT WILL PROVIDE THE STUDENT WITH EXPOSURE TO THE CURRENT THEORIES THAT ARE BEING USED IN HEALTH BEHAVIOR AND HEALTH PROMOTION EDUCATIONAL INTERVENTIONS. ALSO IT WILL PROVIDE STUDENTS WITH A THEORETICAL FOUNDATION FOR DESIGNING, IMPLEMENTING AND EVALUATING HEALTH PROMOTION AND EDUCATION PROGRAMS.

[Effective fall 2018, term 2191; credit change from 03.0 to 01.0.]

BCHS 2521 ESSAY**Credit(s): 01.0 to 03.0**

THE ESSAY REQUIREMENT IS DESIGNED TO PROVIDE THE STUDENT WITH AN OPPORTUNITY TO INTEGRATE THE MAJOR COMPONENTS OF THE PUBLIC HEALTH LEARNING EXPERIENCE. THE STUDENT IS EXPECTED TO DEMONSTRATE VERBAL AND TECHNICAL PROFICIENCY IN EXPOSITORY WRITING.

BCHS 2523 PH PRGM PLNG & PROPSL WRITNG**Credit(s): 03.0**

THIS COURSE IS DESIGNED TO EXPOSE STUDENTS TO CRITICAL HEALTH PROGRAM PLANNING, IMPLEMENTATION AND EVALUATION TOOLS AND STRATEGIES IN A FORMAT THAT MODELS ACTUAL PROGRAM IMPLEMENTATION. IT IS A REQUIRED COURSE FOR BCHS MASTER'S STUDENTS AND HAS BEEN DEVELOPED IN RESPONSE TO REQUESTS FROM STUDENTS FOR GUIDANCE IN DEVELOPING THE SKILLS NECESSARY FOR THE EFFECTIVE EXECUTION OF PUBLIC HEALTH INTERVENTIONS. THIS CLASS COMPLEMENTS OTHER BCHS COURSEWORK IN THAT IT GIVES THE STUDENT THE OPPORTUNITY TO APPLY THEORIES AND MODELS LEARNED IN OTHER CLASSES. IN PARTICULAR, THE SOCIO-ECOLOGICAL THEORY HEAVILY INFLUENCES THE CONTENT OF THIS COURSE. THROUGH DISCUSSIONS, PRESENTATIONS, WRITTEN ASSIGNMENTS, AND IN-CLASS ACTIVITIES, STUDENTS WILL LEARN RESOURCES FOR, AND GAIN PRACTICE IN, THE STAGES OF PROGRAM DEVELOPMENT, INCLUDING BUDGETS AND USE OF LOGIC MODELS. STUDENTS WILL LEARN HOW TO PRESENT THEIR PROGRAM PROPOSALS IN BOTH WRITTEN AND ORAL FORMATS.

(For BCHS MPH, DrPH, PhD students.)

Note: Effective for 2015, Term 2154, title change.

(Previous title: PH Program Planning Implementation and Evaluation.)

BCHS 2524 OVERVIEW OF HEALTH EQUITY**Credit(s): 03.0**

ACHIEVING HEALTH EQUITY AND UNDERSTANDING HEALTH DISPARITIES INVOLVE A CRITICAL ANALYSIS OF HISTORICAL, POLITICAL, ECONOMIC, SOCIAL, CULTURAL, AND ENVIRONMENTAL CONDITIONS THAT HAVE PRODUCED AN INEQUITABLE HEALTH STATUS FOR VULNERABLE POPULATIONS IN THE UNITED STATES. HEALTH DISPARITIES ARE AN IMPORTANT FOCUS ON IMPROVING POPULATION HEALTH AND ONE OF HEALTHY PEOPLE 2020'S OVERARCHING GOAL IS TO "ACHIEVE HEALTH EQUITY, ELIMINATE DISPARITIES, AND IMPROVE THE HEALTH OF ALL GROUPS". THE PURPOSE OF THIS CLASS IS TO INTRODUCE BASIC ISSUES THAT UNDERLIE HEALTH DISPARITIES. THIS COURSE WILL INCLUDE AN OVERVIEW OF CURRENT LITERATURE AND FOSTER DISCUSSIONS THAT WILL EXAMINE HEALTH DISPARITIES, EXPLORE SOCIAL AND ENVIRONMENTAL DETERMINANTS OF THOSE DISPARITIES, CRITICALLY REVIEW MEASUREMENT ISSUES, AND DETERMINE PUBLIC HEALTH'S RESPONSE TO ADDRESSING THESE DISPARITIES AND ACHIEVING HEALTH EQUITY. STUDENTS SHOULD SEEK TO CRITICALLY REFLECT ON THEIR PERSONAL AND PROFESSIONAL ROLES IN ELIMINATING HEALTH DISPARITIES AND ACHIEVING HEALTH EQUITY.

Revised description effective for Spring 2015, Term 2154.

BCHS 2525 INTRO TO APPLIED RESEARCH**Credit(s): 03.0**

THE GOAL OF THE COURSE IS TO GIVE STUDENTS A BASIC UNDERSTANDING OF SOCIAL AND BEHAVIORAL SCIENCES RESEARCH PRINCIPLES, AS WELL AS HOW THESE METHODS ARE IMPLEMENTED IN THE FIELD OF PUBLIC HEALTH. THE RELATIONSHIP OF APPLIED RESEARCH TO PROGRAM EVALUATION, THE LINK OF THEORY TO RESEARCH, AND THE TRANSLATION OF RESEARCH INFORMATION TO APPLIED PUBLIC HEALTH PROGRAMS AND POLICIES WILL BE EMPHASIZED. PARTICIPATORY RESEARCH WILL BE HIGHLIGHTED. QUANTITATIVE AND QUALITATIVE STRATEGIES, RESEARCH DESIGNS, DATA COLLECTION METHODS, PARTICIPANT SELECTION, AND DATA ANALYSIS WILL BE COVERED.

BCHS 2526 HLTH EQUITY RES: METH & INTRV**Credit(s): 03.0**

THIS COURSE IS ONE OF THE SERIES OF COURSES REQUIRED FOR THE CERTIFICATE IN HEALTH EQUITY, AND WILL EXAMINE THE CHALLENGES IN, AND METHODS FOR, HEALTH INEQUITIES RESEARCH AND INTERVENTIONS. IT IS INTENDED TO BOTH COMPLEMENT AND EXPAND UPON THE KNOWLEDGE GAINED IN OTHER BCHS COURSES AND/OR PROFESSIONAL EXPOSURE BY FOCUSING ON A WIDE RANGE OF POPULATIONS THAT EXPERIENCE HEALTH INEQUITIES. INEQUITIES THAT WE WILL EXPLORE INCLUDE (BUT NOT BE LIMITED TO) THOSE EVIDENCED BY GENDER, ETHNICITY, DISABILITY, SOCIOECONOMIC STATUS, SEXUAL ORIENTATION, AND RURAL/URBAN LIVING. THROUGH DISCUSSIONS, PRESENTATIONS, WRITTEN ASSIGNMENTS, AND IN-CLASS ACTIVITIES, STUDENTS WILL GAIN EXPOSURE TO METHODS AND RESOURCES FOR RESEARCH IN HEALTH INEQUITIES. THIS WILL INCLUDE ETHICS AND RESEARCH IN DIVERSE COMMUNITIES; BARRIERS AND FACILITATORS TO ENGAGING DIVERSE POPULATIONS IN HEALTH RESEARCH; ADVISORY BOARDS AND COALITIONS; DATA BASES AND RESEARCH DESIGNS UTILIZED IN EQUITIES RESEARCH, AND THE APPLICATION OF RESEARCH FINDINGS TO PROGRAM DEVELOPMENT. STUDENTS WILL WORK BOTH IN INTERDISCIPLINARY TEAMS AND INDIVIDUALLY TO EFFECTIVELY PRESENT THEIR WORK IN WRITTEN AND ORAL PRESENTATIONS.

BCHS 2528	INTGRTV SEM IN HEALTH EQUITY	Credit(s): 01.0
THIS ONE CREDIT SEMINAR SERVES AS THE INTEGRATIVE COURSE FOR THE HEALTH EQUITY CERTIFICATE. STUDENTS BUILD UPON AND APPLY THE KNOWLEDGE AND EXPERIENCES GAINED FROM ALL OF THE PREVIOUS CERTIFICATE CORE AND ELECTIVE COURSES TO SPECIFIC PUBLIC HEALTH PROBLEMS WHILE CONSIDERING A HEALTH POLICY FRAMEWORK. THE SEMINAR IS DESIGNED TO EXPOSE STUDENTS TO THE CRITICAL ANALYSIS OF A HEALTH POLICY AS IT AFFECTS HEALTH EQUITY, AS WELL AS PROVIDES AN OPPORTUNITY FOR STUDENTS TO NETWORK WITH A VARIETY OF ACADEMIC AND COMMUNITY LEADERS THAT CAN POTENTIALLY FURTHER THEIR KNOWLEDGE AND PRACTICAL SKILLS IN THIS AREA.		
Title and course description change effective for spring 2015, term 2154. (Previous title "Integrative Seminar in Minority Health and Health Disparities")		
BCHS 2532	DIMENSNS OF AGING: CULT & HLTH	Credit(s): 02.0
PROVIDES AN OVERVIEW OF THE AGING EXPERIENCE FROM A CROSS-CULTURAL AND A PUBLIC HEALTH PERSPECTIVE. THE WAYS IN WHICH PEOPLE COPE WITH AND ADAPT TO THE AGING PROCESS IS THE MAJOR THEME.		
BCHS 2534	CLIN ASPECTS OF DEMENTIA CARE	Credit(s): 02.0
THIS COURSE IS DESIGNED AS AN INDEPENDENT STUDY FOR STUDENTS IN THE PUBLIC HEALTH AND AGING PROGRAM. ITS FOCUS IS ON THE METHODS AND TECHNOLOGY FOR DIAGNOSIS AND TREATMENT OF ALZHEIMER'S DISEASE.		
BCHS 2554	INTRO TO COMMUNITY HEALTH	Credit(s): 03.0
THIS COURSE USES STRENGTHS-BASED AND SOCIAL ECOLOGICAL APPROACHES TO PREPARE STUDENTS FOR PRACTICING PUBLIC HEALTH WITH COMMUNITIES. THROUGH IN-CLASS ACTIVITIES, DISCUSSIONS, COMMUNITY-BASED EXPERIENCES AND WRITTEN ASSIGNMENTS STUDENTS WILL LEARN APPROPRIATE WAYS TO ENGAGE COMMUNITIES AND ASSIST THEM IN BUILDING THEIR OWN CAPACITY TO IDENTIFY AND ADDRESS HEALTH ISSUES. STUDENTS WILL ALSO LEARN TECHNIQUES FOR CONDUCTING COMMUNITY HEALTH ASSESSMENTS USING BOTH PRIMARY AND SECONDARY DATA.		
BCHS 2558	HEALTH PROGRAM EVALUATION	Credit(s): 03.0
SURVEYS THE EVALUATION AND POLICY RESEARCH METHODS APPLIED TO HEALTH. STUDENTS LEARN TO CRITICALLY ASSESS THE ADEQUACY OF EVALUATIONS AND HOW TO PLAN AND PILOT TEST AN EVALUATION.		
BCHS 2560	INTRO TO POPULATION PROBLEMS	Credit(s): 03.0
THE IMPACT OF POPULATION GROWTH, DISTRIBUTION, AND CHANGE ON SOCIAL, ECONOMIC, ENVIRONMENTAL, AND HEALTH RELATIONSHIPS IS PRESENTED WITH A FOCUS ON THE SOCIOPOLITICAL RESPONSES TO POPULATION DYNAMICS.		
BCHS 2562	SEMINAR IN FAMILY PLANNING	Credit(s): 03.0
PARTICIPANTS EXPLORE THE HISTORY OF CONTRACEPTION AND THE BIRTH CONTROL MOVEMENT. ISSUES RELATED TO CONTRACEPTIVE CARE AND THE BROADER CONCERNS OF WOMEN'S HEALTH ARE DISCUSSED.		
BCHS 2563	COMMUNITY HEALTH ASSESSMENT	Credit(s): 03.0
TECHNIQUES FOR ASSESSING AND PROJECTING SELECTED COMMUNITY CHARACTERISTICS AND POPULATION HEALTH STATUS FROM THE VIEWPOINT OF COMMUNITY HEALTH PROGRAMMING. COVERS BOTH PRIMARY AND SECONDARY DATA SUCH AS DEMOGRAPHIC DATA, HEALTH-CARE UTILIZATION AND SURVEY DATA.		
BCHS 2572	RISK COMMUNICATION	Credit(s): 03.0
COURSE FOCUSES ON RISK COMMUNICATION WITHIN THE CONTEXT OF TERRORISM AND NATURAL DISASTERS. THE DIDACTIC AND EXPERIENTIAL COURSE WILL INCLUDE CORE PRINCIPLES OF RISK COMMUNICATION, EXAMINE SPECIAL CHALLENGES OF RISK COMMUNICATION WITH DIVERSE AUDIENCES AND MEDIA, AND PREPARE STUDENTS TO CREATE RISK AND CRISIS COMMUNICATION CAMPAIGNS.Effective for 2008(2091) the course credits increased from 02.0 to 03.0.		
BCHS 2575	SEMINAR MATERNAL & CHLD HEALTH	Credit(s): 03.0
SEMINAR DEALS WITH CURRENT ISSUES IN SOCIETY AFFECTING THE HEALTH OF CHILDREN AND THEIR FAMILIES. FOR EXAMPLE, PROBLEMS OF ADOLESCENT PREGNANCY, CHILD ABUSE AND NEGLECT, EMOTIONAL ABUSE AND SEXUAL ABUSE: PREVAILING ATTITUDES AND RESPONSES; ETIOLOGY AND RISK FACTORS; AND MULTIDISCIPLINARY PREVENTIVE STRATEGIES.		
BCHS 2579	INTRO TO PH EMRGY PREPPRDNS	Credit(s): 03.0
INTRODUCTION TO ROLE OF PUBLIC HEALTH PROFESSIONALS IN COMMUNITY EMERGENCY PLANNING AND RESPONSE TO ALL TYPES OF DISASTERS. COVERS THEORY AND PRACTICE OF INCIDENT COMMAND SYSTEM, ROLE OF LOCAL, STATE AND FEDERAL AGENCIES, SURVEILLANCE AND INFORMATION SYSTEMS, RISK COMMUNICATIONS, TRAINING AND EVALUATIONS.		

BCHS 2592 INTGRTV SEM PUBLI HLTH SOCL WORK Credit(s): 01.0

PROVIDES THE SOCIAL WORKER AN OPPORTUNITY TO INTEGRATE PREVIOUS COURSE CONTENT INTO A FRAMEWORK RELEVANT TO THE PRACTICE OF PUBLIC HEALTH SOCIAL WORK.

BCHS 2598 SOCIAL INEQUALITIES IN HEALTH Credit(s): 03.0

Prerequisite(s): B10ST 2011 or EPIDEM 2110

THIS COURSE CRITICALLY EVALUATES SOCIAL SCIENCE AND EPIDEMIOLOGICAL THEORY AND RESEARCH ON SOCIAL INEQUALITIES IN HEALTH. A CONSISTENTLY IMPORTANT FINDING IS THE POSITIVE GRADIENT BETWEEN SOCIOECONOMIC POSITION AND HEALTH. IS THIS GRADIENT SOCIALLY PATTERNED? THIS QUESTION IS EXAMINED BY DRAWING ON RESEARCH FROM U.S., OTHER INDUSTRIALIZED COUNTRIES AND THE THIRD WORLD. THIS COURSE DEVOTES SPECIAL ATTENTION TO CONCEPTUAL AND MEASUREMENT ISSUES, THE SOCIAL CONTEXT OF HEALTH, HIERARCHICAL LINEAR MODELING OR MULTILEVEL ANALYSIS, AND ECOLOGICAL AND LIFE COURSE PERSPECTIVES.

BCHS 2599 PUBLIC HLTH APPRCH WOMEN HLTH Credit(s): 03.0

PUBLIC HEALTH PROBLEMS AFFECTING WOMEN, I.E., ALCOHOLISM, SMOKING, OCCUPATIONAL HEALTH, REPRODUCTIVE HEALTH, AGING AND CANCER, AS WELL AS HEALTH AND SOCIAL PROBLEMS RELATING PRIMARILY TO WOMEN ARE DISCUSSED. ETIOLOGY OF HEALTH PROBLEMS, PREVENTION AND TREATMENT, HIGH-RISK GROUPS, AND CONTROVERSIES RELATED TO CARE ARE COVERED.

BCHS 2608 INTRODUCTION TO CBPR Credit(s): 01.0

THIS COURSE IS ORGANIZED AROUND THEMES CENTRAL TO THE CONCEPTUALIZATION AND IMPLEMENTATION OF COMMUNITY-BASED PARTICIPATORY RESEARCH (CBPR). THE GOAL OF THIS COURSE IS TO FAMILIARIZE STUDENTS WITH CBPR. STUDENTS WILL BECOME CONVERSANT IN SEMINAL CBPR LITERATURE. DISCUSSION, INTERACTIVE LEARNING EXERCISES, AND EXAMPLES OF CURRENT RESEARCH WILL BE USED TO PROVIDE AN UNDERSTANDING OF CBPR AND THE ASSOCIATED STRENGTHS AND LIMITATIONS.

BCHS 2609 TRANSLATING RESEARCH FOR POLIC Credit(s): 01.0

THIS COURSE PROVIDES AN INTRODUCTION TO CONCEPTS AND SKILLS IN KNOWLEDGE TRANSLATION (A COORDINATED, COLLABORATIVE APPROACH TO ENSURE THAT RESEARCH FINDINGS ARE UTILIZED BY KEY STAKEHOLDERS) AND TO THE ROLE OF RESEARCH IN CHANGING POLICY AND PRACTICE AT LOCAL, REGIONAL, AND NATIONAL LEVELS. THIS MODULE WILL BUILD ON CONCEPTS IN COMMUNITY-PARTNERED RESEARCH INTRODUCED IN MODULE A OF THIS THREE-PART SEQUENCE IN COMMUNITY BASED PARTICIPATORY RESEARCH. THIS SKILLS-BASED MODULE WILL INTRODUCE LEARNERS TO THEORETICAL CONCEPTS IN KNOWLEDGE TRANSLATION (KT), DISSEMINATION AND IMPLEMENTATION SCIENCE, AND APPLY THESE CONCEPTS TO PRACTICAL EXERCISES TO TRANSLATE RESEARCH FINDINGS FOR RELEVANCE TO OTHER KEY STAKEHOLDERS, INCLUDING COMMUNITY PARTNERS, PROGRAM DEVELOPERS, AND POLICY MAKERS. ONE SESSION WILL BE DEVOTED SPECIFICALLY TO SKILLS BUILDING IN LEGISLATIVE AND MEDIA ADVOCACY. THE GOAL OF THIS COURSE IS TO FAMILIARIZE LEARNERS WITH THE CRITICALLY IMPORTANT STEPS INVOLVED IN TRANSLATING RESEARCH FINDINGS FOR RELEVANCE TO STAKEHOLDERS BEYOND ACADEMIA. DISCUSSION, INTERACTIVE LEARNING EXERCISES, AND EXAMPLES OF RESEARCH DISSEMINATION AND IMPLEMENTATION SCIENCE WILL BE USED TO PROVIDE A FOUNDATION IN KT AS AN ASPECT OF COMMUNITY-PARTNERED RESEARCH.

BCHS 2610 CONCEPT MAPPING Credit(s): 01.0

THIS COURSE PROVIDES HAND-ON TRAINING IN THE PARTICIPATORY RESEARCH METHOD KNOWN AS CONCEPT MAPPING (CM). CM GIVES COMMUNITY MEMBERS AND OTHER STAKEHOLDERS A UNIQUE CHANCE TO HAVE THEIR OWN WORDS COMMUNICATE IDEAS AND CONCEPTS. RESEARCH PARTICIPANTS CONTRIBUTE DIRECTLY IN THE PROCESSING OF THIS INFORMATION AS IT DIRECTLY RELATES TO THEIR COMMUNITY AND INTERVENTION NEEDS. THE GOAL OF THE COURSE IS TO FAMILIARIZE STUDENTS WITH EXAMPLE APPLICATIONS OF THE RESEARCH METHOD AND TO PROVIDE TRAINING RELATED TO CONCEPT MAPPING DATA COLLECTION AND ANALYSIS. DISCUSSION, INTERACTIVE LEARNING EXERCISES, AND EXAMPLES OF CURRENT RESEARCH WILL BE USED TO PROVIDE AN UNDERSTANDING OF CM AND THE ASSOCIATED STRENGTHS AND LIMITATIONS.

BCHS 2612 PROJ MANAGEMENT PUBLIC HEALTH Credit(s): 02.0

The purpose of the course is to prepare students to effectively manage a range of public health projects. The course is lecture/discussion/laboratory/application based. Project management software is used including Microsoft Project and Visio. Industry standard body of knowledge is the foundation of the course further illustrated with case studies and examples. There are no pre-requisite courses or software skills.

[New course for fall 2017, term 2181]

BCHS 2990 SOCIAL DYNAMICS PUBLIC HEALTH**Credit(s): 01.0**

THIS COURSE IS AN INTRODUCTION TO HISTORIC AND CURRENT CONCEPTS ABOUT COMPLEX, DYNAMIC SYSTEMS IN PUBLIC HEALTH RESEARCH AND PRACTICE. WE WILL DISCUSS THE RATIONALE FOR ADOPTING SYSTEMS THINKING - AN APPROACH TO ANALYZING THE IMPACT OF SYSTEMS WITHIN THEIR SOCIAL, SPATIAL, AND TEMPORAL CONTEXT - IN BEHAVIORAL AND COMMUNITY HEALTH RESEARCH AND PRACTICE AND ILLUSTRATE HOW THIS APPROACH IS CRITICAL FOR THE DEVELOPMENT OF PUBLIC HEALTH POLICY. THE COURSE WILL INCLUDE DIDACTIC SESSIONS, GUEST LECTURES, HANDS-ON ENGAGEMENT WITH TOOLS THAT ALLOW US TO REPRESENT DYNAMIC SOCIAL SYSTEMS, AS WELL AS SEMINAR-STYLE DISCUSSIONS OF STUDIES THAT EXAMINE DYNAMIC SOCIAL SYSTEMS IN PUBLIC HEALTH. (NOTE: BCHS 2520 IS RECOMMENDED.)

[removed prereq EPIDEM 2110 for fall term 2018 enrollment]

BCHS 2991 MULTILEVEL ANALYSIS PUB HLTH**Credit(s): 01.0**

Multilevel analysis is an essential statistical tool in public health that can simultaneously investigate the effects of factors at multiple social ecological levels on individual-level outcomes. In this course, students will learn to identify scientific problems that necessitate the use of multilevel statistical modeling techniques and understand the essential theoretical underpinnings of multilevel analysis. Students will conduct multilevel statistical modeling procedures using Stata and interpret the statistical and practical meaning of fixed and random effect coefficients from the output of these models. Special emphasis will be placed on the strengths and limitations of multilevel analysis in investigating social and group-level determinants of health. BIOS 2041, PSYED 2018, or permission to enroll from the instructor required. Knowledge of linear regression, logistics regression or ANOVA strongly preferred.

[New course for fall 2017, term 2181.]

BCHS 2992 SYSTEM THEORIES & APPROACHES**Credit(s): 01.0**

Systems science approaches were developed to understand connections between a system's structure and its behavior over time. The use of such approaches within public health research and practice has grown tremendously over the past decade. Identifying and understanding the dynamic relationships between individuals and their social and physical environments can help us identify potential leverage points for intervention. This course provides an introduction to systems thinking and models in public health, explores the importance of associated theories and underscores the utility of systems science approaches within public health research and practice. We will highlight current systems science public health research and encourage students to think critically about the utility of systems theories and approaches within public health.

New course effective 2191

BCHS 2995 GLBL PERSPS ON WOMEN'S HEALTH**Credit(s): 02.0**

LIMITED EDUCATIONAL OPPORTUNITIES, FINANCIAL DEPENDENCE, AND GENDER BIAS AND DISCRIMINATION ARE INTERSECTING FACTORS THAT CONTRIBUTE TO POOR HEALTH STATUS AND WELL-BEING AMONG WOMEN AROUND THE WORLD. THIS COURSE EXAMINES THE RELATIONSHIP BETWEEN SUCH MACRO-LEVEL FACTORS AND WOMEN'S HEALTH AND EXPLORES PROMISING INTERVENTIONS AND POLICY CHANGES AIMED AT PROMOTING WOMEN'S EMPOWERMENT, GENDER EQUALITY, AND IMPROVED AND SUSTAINED HEALTH OUTCOMES FOR WOMEN. SPECIFIC ATTENTION IS GIVEN TO EXAMINING THE CONNECTION BETWEEN WOMEN'S HEALTH AND EDUCATIONAL AND LEGAL INITIATIVES AND MICROFINANCE PROGRAMMING. ILLUSTRATIVE CASE EXAMPLES ARE DRAWN FROM INSTRUCTOR GLOBAL EXPERIENCE CONDUCTED ON RELATED RESEARCH IN THAILAND, INDIA, AND PERU AND RELEVANT READINGS. KEY HEALTH ISSUES DISCUSSED WILL INCLUDE GENDER-BASED VIOLENCE, REPRODUCTIVE AND SEXUAL HEALTH, AND PREGNANCY OUTCOMES. TO EMPHASIZE KEY POINTS, GUEST SPEAKERS FROM DIVERSE FIELDS, INCLUDING WOMEN'S STUDIES, ETHICS, LAW, AND ECONOMICS WILL BE INVITED TO PROVIDE ADDITIONAL INSIGHTS REGARDING THE COMPLEXITIES ASSOCIATED WITH THE TOPIC AND WITH EFFECTIVE AND INNOVATIVE INTERVENTION DEVELOPMENT.

BCHS 2999 MODELING COLLECTIVE BEHAVIOR**Credit(s): 03.0**

STUDENTS WILL LEARN HOW TO CREATE DYNAMIC MODELS OF HEALTH BEHAVIOR IN SOCIAL CONTEXT. WE WILL STUDY SOCIAL ECOLOGICAL MODELS OF INDIVIDUAL AND COLLECTIVE ACTION EMPHASIZING THE COLLECTIVE PROPERTIES SUCH AS COOPERATION AND POLICY RESISTANCE THAT OFTEN EMERGE. STUDENTS WILL LEARN HOW TO: APPLY THESE MODELS TO PLAN AND EVALUATE HEALTH INTERVENTIONS AND POLICY; USE SYSTEMS THINKING TO MODEL HEALTH PROBLEMS; USE SIMPLE SOFTWARE TO CREATE AGENT MODELS; INTERPRET RESULTS AND DESCRIBE PUBLIC HEALTH IMPLICATIONS.

BCHS 3002 HEALTH SURVEY METHODS**Credit(s): 03.0**

INTRODUCES TECHNIQUES FOR THE COLLECTION OF HEALTH DATA THROUGH SURVEY METHODS.

BCHS 3003 SEMNR IN ADVNCD EVAL TECHNQS**Credit(s): 03.0**

EVALUATES THEORY AND METHODOLOGY WITH EMPHASIS UPON HUMAN SERVICE ORGANIZATIONS.

BCHS 3004 INTGRTV RES SEM: GRANT WRITING Credit(s): 01.0

EVERY GRADUATE OF A DOCTORAL PROGRAM NEEDS TO KNOW HOW TO WRITE A SUCCESSFUL GRANT APPLICATION TO FUND THEIR WORK. WHETHER YOU ARE A SENIOR MANAGER LEADING A PUBLIC HEALTH PROGRAM IN THE PUBLIC OR NON-PROFIT SECTORS OR YOU ARE A RESEARCHER WORKING IN AN ACADEMIC SETTING, YOU WILL NEED FUNDING TO SUPPORT YOUR WORK! WE BEGIN THIS DOCTORAL SEMINAR BY ASKING THE QUESTION, "HOW DO YOU WRITE A GRANT PROPOSAL THAT WILL ATTRACT THE ATTENTION OF A FUNDING AGENCY AND CONVINCED THEM THAT YOUR APPLICATION IS SIGNIFICANT AND SHOULD BE A PRIORITY FOR FUNDING?" BUILDING ON THE IDEAS ARTICULATED IN BCHS DOCTORAL STUDENTS' PRELIMINARY EXAMINATION, WE WILL FOCUS ON WRITING THE SPECIFIC AIMS AND SIGNIFICANCE SECTIONS FOR AN NIH GRANT PROPOSAL. THE STUDENTS' WRITTEN WORK WILL BE SHARED WITH AND CRITIQUED BY OTHER STUDENTS AND FACULTY PARTICIPATING IN THE SEMINAR. FINALLY, WE WILL REVIEW AND CRITIQUE EXAMPLES OF SUCCESSFUL AND UNSUCCESSFUL GRANT APPLICATIONS-BOTH PROGRAM AND RESEARCH GRANTS (ESPECIALLY RESEARCH GRANTS THAT THE STUDENTS WILL MOST LIKELY BE WRITING AT THE BEGINNING OF THEIR ACADEMIC CAREERS-NAMELY, RO-3S OR R-21S).

BCHS 3006 INTGRTV RES SEM: WRITNG PBLCTN Credit(s): 01.0

The Integrative Research Seminar: Writing for Publication focuses on the process of developing a manuscript for publication in a peer-reviewed journal. All doctoral students must develop the skills to enable them to write and publish the results of their work. The goal of this seminar is to provide students with the requisite knowledge and skills to develop a manuscript for submission to an appropriate journal for publication. As part of this process students will also learn about the peer review process and how reviewers rate manuscripts submitted for publication. It is expected that students in this seminar will work closely with their academic mentor(s) on the development of manuscripts throughout their doctoral program. And, this seminar will assist students in fulfilling the requirement to submit at least one first-authored manuscript-- ideally based on their dissertation research, before they graduate. The seminar content will be delivered via a series of faculty presentations and discussions. There are no prerequisites for this seminar.

[New course, fall 2017, term 2181.]

BCHS 3007 ETHNOGRAPHIC QUALITATIVE METHS Credit(s): 03.0

STUDENTS WILL BE INTRODUCED TO THE BASIC PRINCIPLES OF ETHNOGRAPHIC RESEARCH AND THEIR APPLICATION TO THE EVALUATION OF HUMAN SERVICE AND HEALTH CARE PROGRAMS. THEY WILL BECOME FAMILIAR WITH RESEARCH DESIGN IN ETHNOGRAPHIC STUDIES; THE PROCESS OF FIELDWORK IN URBAN SETTINGS; THE METHODOLOGY OF PARTICIPANT OBSERVATION AND ETHNOGRAPHIC INTERVIEWING; RECORDING ETHNOGRAPHIC DATA; ETHNOGRAPHIC WRITING; AND ETHICAL QUESTIONS SURROUNDING ETHNOGRAPHIC RESEARCH.

BCHS 3010 RESEARCH AND DISSERTATION PHD Credit(s): 01.0 to 15.0

DISSERTATION CREDITS FOR QUALIFIED DOCTORAL STUDENTS IN THE DEPARTMENT OF BEHAVIORAL AND COMMUNITY HEALTH SCIENCES.

BCHS 3015 MAPPING & SPATIAL ANALYSIS Credit(s): 03.0

THIS COURSE PROVIDES AN INTRODUCTION TO THE USE OF SPATIAL DATA IN PUBLIC HEALTH. THE TWO MAIN GOALS ARE (1) TO FAMILIARIZE STUDENTS WITH THE USE OF GEOGRAPHIC DATA IN PUBLIC HEALTH RESEARCH AND PRACTICE; AND (2) TO INTRODUCE BASIC SPATIAL ANALYTIC SKILLS APPLIED TO GEOGRAPHIC AND SPATIAL DATA. STUDENTS WILL BE TAUGHT HOW TO USE GEOGRAPHIC INFORMATION SYSTEMS (GIS) TO INFORM BOTH COMMUNITY PRACTICE AND RESEARCH. THEY WILL LEARN HOW TO CREATE, MANAGE, AND ANALYZE GEOGRAPHIC DATA AND GAIN HANDS-ON EXPERIENCE APPLYING THESE TECHNIQUES TO RESEARCH QUESTIONS. NO PREVIOUS KNOWLEDGE OF MAPPING OR GIS IS ASSUMED. ONE LECTURE AND ONE LAB PER WEEK.

[Title changed effective Fall 2015 (2161). Previous title: Geographic Information Systems and Spatial Data Analysis]

BCHS 3030 MEASURMNT IN SOCL & BEHVRL SCI Credit(s): 02.0

THE GOAL OF THIS TWO-CREDIT COURSE IS TO PROVIDE YOU WITH FUNDAMENTAL SKILLS TO IDENTIFY, USE AND CREATE SCALES AND INDICES FOR RESEARCH AND EVALUATION. THE COURSE WILL BE PRIMARILY BASED ON CLASSICAL MEASUREMENT THEORY, YET WE WILL DISCUSS ITEM RESPONSE THEORY AS WELL. WE WILL ALSO COVER GOOD MEASUREMENT PROCESSES, INCLUDING ESTABLISHING AND EVALUATING VALIDITY AND RELIABILITY. WE WILL ADDRESS COMMUNICATION OF MEASUREMENT PRINCIPLES AND APPLICATIONS TO LAY AND SCIENTIFIC AUDIENCES. THROUGHOUT THE COURSE, MATERIALS WILL HIGHLIGHT THE INFLUENCE THAT CULTURE AND SOCIO-DEMOGRAPHICS HAVE ON MEASUREMENT TOOLS AND THEIR VALIDITY.

BCHS 3503 PREVN SCI TRANLTNG KNOWL PRAC Credit(s): 03.0

THE PURPOSE OF THIS COURSE IS TO PROVIDE A SOLID GROUNDING IN BASIC CONCEPTS, THEORIES, PRACTICAL APPROACHES AND METHODS ASSOCIATED WITH PREVENTION (DEFINED HERE AS BOTH PROBLEM PREVENTION AND HEALTH PROMOTION). THE COURSE WILL FOCUS ON BEHAVIORAL AND PSYCO-SOCIAL AREAS INCLUDING SUBSTANCE ABUSE, MENTAL HEALTH, VICTIMIZATION, AND SEXUALLY TRANSMITTED INFECTIONS, INCLUDING HIV.

BCHS 3504 DOCTRL SEM ON HLTH COMNCTNS**Credit(s): 03.0**

THIS DOCTORAL SEMINAR PROVIDES AN OPPORTUNITY FOR IN DEPTH EXPLORATION OF HEALTH COMMUNICATION TOPICS WITH A PARTICULAR EMPHASIS ON CRITICAL ANALYSIS OF PAST AND CURRENT HEALTH COMMUNICATION TECHNIQUES AND THE APPLICATION OF CURRENT BEST PRACTICES IN HEALTH COMMUNICATION. THIS CLASS IS REQUIRED FOR DRPH STUDENTS IN BCHS AND WILL ALLOW STUDENTS TO EXPLORE HEALTH COMMUNICATION ISSUES WITHIN THEIR INDIVIDUAL FIELDS OF INTEREST.

BCHS 3555 DCTRL SEM BCHS THEORIES/MODELS**Credit(s): 03.0**

HIS COURSE IS A REQUIREMENT FOR STUDENTS IN THE DOCTORAL PROGRAM IN THE DEPARTMENT OF BEHAVIORAL AND COMMUNITY HEALTH SCIENCES. ADMISSION TO THIS SEMINAR IS BY PERMISSION OF THE INSTRUCTOR. THE SEMINAR IS DESIGNED TO STIMULATE CRITICAL THINKING ABOUT SPECIFIC PUBLIC HEALTH ISSUES FROM WITHIN THE FRAMEWORK OF VARIOUS BEHAVIORAL AND COMMUNITY THEORIES AND MODELS. THE PURPOSE OF THIS DOCTORAL SEMINAR IS TO CRITICALLY APPLY AND EVALUATE SPECIFIC CONCEPTUAL MODELS AND THEORETICAL FRAMEWORKS TO PARTICULAR SIGNIFICANT PUBLIC HEALTH PROBLEMS OR ISSUES. THIS REQUIRES THAT SEMINAR PARTICIPANTS ACQUIRE CLOSE WORKING FAMILIARITY WITH VARIOUS CONCEPTUAL TOOLS AND SUBSTANTIVE ISSUES. ONE GOAL UNDERLYING THE SELECTION OF THE SUBSTANTIVE ISSUES HAS BEEN TO SELECT THOSE WHICH CHALLENGE, PROVOKE, CONFRONT, EXCITE, AND STIMULATE SEMINAR PARTICIPANTS ABOUT ECONOMIC AND POLITICAL CONTROVERSIES IN CONTEMPORARY HEALTHCARE AND PUBLIC HEALTH. SIMILARLY, THE SELECTION OF ISSUES AND READING MATERIALS DEALING WITH THOSE ISSUES, CHALLENGE TAKEN-FOR GRANTED ASSUMPTIONS WITH RESPECT TO HEALTH AND ILLNESS, PUBLIC HEALTH AND MEDICAL CARE AS WELL AS HEALTH POLICIES AND HEALTH POLITICS. A FINAL OBJECTIVE OF THE SEMINAR IS TO CHALLENGE PARTICIPANTS TO REASSESS THEIR CONCEPTION OF THE FIELD OF PUBLIC HEALTH AND THEIR PLACE IN IT. IS IT A PROFESSION? A DISCIPLINE? AN APPLIED SOCIAL SCIENCE? WHAT ARE THE IMPLICATIONS/CONSEQUENCES OF EACH?

BCHS 3703 EXECUTIVE MANAGEMENT PRACTICUM**Credit(s): 01.0 to 03.0**

THE PURPOSE OF THE EXECUTIVE MANAGEMENT PRACTICUM IS TO PROVIDE A STRUCTURE FOR STUDENTS IN THE DRPH PROGRAM TO GAIN EXPERIENCE IN THE APPLICATION OF THE CORE SET OF COMPETENCIES IN HIGH LEVEL PRACTICE SETTINGS. THE ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH HAS IDENTIFIED SEVEN COMPETENCIES THAT STUDENTS ARE EXPECTED TO MASTER DURING THEIR DOCTORAL STUDY. FOUR OF THESE ARE THE FOCUS OF THE PRACTICUM: ADVOCACY, COMMUNICATION, LEADERSHIP, AND MANAGEMENT. PRACTICUM SITES WILL BE CHOSEN BASED ON THE MISSION OF THE ORGANIZATION AND THE OPPORTUNITY FOR THE STUDENT TO BE ABLE TO EXERCISE AND REFINE THEIR SKILLS IN THE AREAS OF MANAGEMENT, LEADERSHIP, COMMUNICATION AND ADVOCACY.

BCHS 3707 MULTPL REGRESN ANAL AND MODLNG**Credit(s): 03.0**

THIS COURSE WAS DESIGNED TO TEACH ADVANCED GRADUATE STUDENTS HOW TO USE APPLIED MULTIVARIATE REGRESSION ANALYSIS TO DESIGN, PROPOSE, AND TEST COMPLEX RESEARCH QUESTIONS USING A CAUSAL MODELING FRAMEWORK. THE COURSE WILL INCLUDE A BRIEF REVIEW OF SIMPLE LINEAR REGRESSION, AND QUICKLY MOVE TO ADVANCED MULTIPLE REGRESSION ANALYSIS TOPICS INCLUDING MULTIPLE PREDICTOR REGRESSION, STEPWISE REGRESSION APPROACHES, THE ANALYSIS OF LONGITUDINAL DATA WITH REGRESSION, AND EXAMINING MEDIATORS, MODERATORS AND CONFOUNDING VARIABLES AND THEIR RELATIONSHIP TO THE INDEPENDENT AND DEPENDENT VARIABLES OF INTEREST. THE COURSE WILL ALSO INCLUDE SEVERAL OTHER BRIEF SEMINARS ON REGRESSION DIAGNOSTICS, DICHOTOMOUS PREDICTORS AND OUTCOME VARIABLES, POWER ANALYSIS, AND AN INTRODUCTION TO OTHER MULTIVARIATE ANALYSIS FRAMEWORKS INCLUDING STRUCTURAL EQUATION MODELING AND LONGITUDINAL GROWTH MODELING. STUDENTS WILL BE REQUIRED TO BRING THEIR OWN MULTIVARIATE DATA SET AND RESEARCH QUESTIONS TO USE FOR CLASS ASSIGNMENTS, PREFERABLY DATA DIRECTLY RELATED TO THEIR DISSERTATION PROJECT.

BCHS 3888 PREP FOR COMPREHENSIVE EXAM**Credit(s): 01.0 to 03.0**

This course is designed to be an independent study for BCHS doctoral students in order for them to be able to read and prepare for their comprehensive exam. The purpose of the BCHS comprehensive examination is to "to assess the student's mastery of the general field of doctoral study, the student's acquisition of both depth and breadth in the area of specialization within the general field, and the ability to use the research methods of the discipline".

[Revised course description and variable credits for spring 2017, term 2174.]

BIOST 2000 TEACHING PRACTICUM**Credit(s): 03.0**

THIS COURSE WILL PROVIDE DOCTORAL STUDENTS WITH AN OPPORTUNITY TO OBTAIN TEACHING EXPERIENCE. THIS COURSE IS INTENDED FOR DOCTORAL STUDENTS DURING THEIR DISSERTATION STAGE. TEACHING EXPERIENCE WILL ENHANCE THE PROFESSIONAL GROWTH OF STUDENTS. STUDENTS WILL FURTHER DEVELOP ORAL AND WRITTEN COMMUNICATION SKILLS AND AN ART FOR EXPLAINING MATERIAL, WHICH IS AN INTEGRAL PART OF A BIostatistician'S CAREER.

BIOST 2011 PRINCIPLES STATISTICAL REASONING - RECITATION Credit(s): 00.0

CLASSROOM INSTRUCTION USUALLY ASSOCIATED WITH A LECTURE WHICH FACILITATES INTERACTION BETWEEN THE STUDENT AND THE INSTRUCTOR.

RECITATION for BIOST 2011 effective 2016, Term 2171.
(When enrolling in BIOST 2011 you will also enroll in one of the required Recitations)

BIOST 2011 PRINCIPLES STATISTICAL REASONING Credit(s): 03.0

ACQUAINTS STUDENTS WITH THE CONCEPTS OF STATISTICAL REASONING AS APPLIED TO THE STUDY OF PUBLIC HEALTH PROBLEMS. STUDENTS LEARN THE GENERAL PRINCIPLES OF STATISTICAL ANALYSIS AND ACQUIRE THE ABILITY TO UTILIZE A STATISTICAL SOFTWARE PACKAGE (MINITAB) AS A TOOL TO FACILITATE THE PROCESSING, EDITING, STORING, DISPLAYING, ANALYSIS AND INTERPRETATION OF HEALTH RESEARCH RELATED DATA.

[Effective 2016, Term 2161: When enrolling in BIOST 2011 you will also enroll in one of the required Recitations.]

BIOST 2015 ELEMENTS STATISTICAL LEARNING Credit(s): 03.0

THE PURPOSE OF THE COURSE IS TO PRESENT IN THOROUGH FASHION THE MATERIAL IN AN OUTSTANDING BOOK, ELEMENTS OF STATISTICAL LEARNING BY HASTIE, TIBSHIRANI, AND FRIEDMAN. THIS RIGOROUS AND CLEARLY WRITTEN BOOK PLACES "STATISTICAL LEARNING" OR "DATA MINING" TECHNIQUES IN THE PROPER CONTEXT WITH REGARD TO THEIR ORIGINS IN SIMPLE CLASSICAL METHODS LIKE LINEAR REGRESSION, TO CLARIFY THE STRENGTHS AND WEAKNESSES FROM THEORETICAL AND PRACTICAL SIDES. "SUPERVISED LEARNING" TECHNIQUES STUDIED INCLUDE USING REGULARIZATION AND BAYESIAN METHODS, KERNEL METHODS, BASIS FUNCTION METHODS, NEURAL NETWORKS, SUPPORT VECTOR MACHINES, ADDITIVE TREES, BOOSTING BOOTSTRAP-BASED METHODS. UNSUPERVISED LEARNING TECHNIQUES STUDIED INCLUDE CLUSTER ANALYSIS, SELF-ORGANIZING MAPS, INDEPENDENT COMPONENT ANALYSIS AND PROJECTION PURSUIT.

BIOST 2016 SAMPLING DESIGN AND ANALYSIS Credit(s): 02.0

Prerequisite(s): BIOST 2011 or BIOST 2039 or BIOST 2041

This is an applied statistical methods course designed to provide students with a working knowledge of introductory and intermediate-level sample designs and associated methods of statistical analysis along with a basic understanding of the theoretical underpinnings. Emphasis is placed on sampling human populations in large communities. Students will also learn statistical software used in survey data analysis, including sample selection and survey procedures in the STATA software package. Lecture topics include: simple probability samples, stratified sampling, ratio and regression estimation, cluster sampling, sampling with unequal probabilities, variance estimation and weighting in complex surveys, two-phase sampling, estimating population size and estimation of rare populations and small areas. The course will consist of one weekly 2-hour lecture and one class devoted to student presentations related to a term project assigned at midterm.

[Rev spring 2019, term 2194: Pre-reqs--BIOST 2011 or BIOST 2039 or 2041 (2039 replaces 2093).]

[Revised fall 2018, term 2191; description; credit decrease; description.]

BIOST 2021 SPECIAL STUDIES Credit(s): 01.0 to 15.0

QUALIFIED STUDENTS MAY UNDERTAKE ADVANCED WORK OR RESEARCH WITH THE APPROVAL AND UNDER THE GUIDANCE OF A MEMBER OF THE STAFF.

BIOST 2025 BIostatISTICS SEMINAR Credit(s): 01.0

BIOMETRY SEMINARS INTRODUCE THE STUDENTS TO CURRENT HEALTH PROBLEMS INVOLVING THE APPLICATION AND DEVELOPMENT OF BIostatISTICS METHODS AND THEORY.

BIOST 2039 BIostatISTICAL METHODS Credit(s): 03.0

This course is an introductory biostatistics methods course for biostatistics graduate students, other quantitative public health students, and health career professionals who will make use of statistical methods in research projects, interpreting literature and possibly develop new biostatistical methods in the future. This class is intended for students needing a more research-oriented approach than that provided in BIOST 2011 and an approach with a greater emphasis on mathematical foundation than provided in BIOST 2041. Students in BIOST 2039 are expected to have a working knowledge of calculus, including multivariable differentiation and integration. Topics covered in this course include exploratory and descriptive analyses, probability, estimation and hypothesis testing. One and two sample problems will be considered for both continuous and discrete variables. ANOVA, regression, correlation and nonparametric methods will be discussed. R will be used extensively for data analysis.

[New course for fall 2018, term 2191.]

BIOST 2040 ELEMENTS OF STOCHASTIC PROCESSES Credit(s): 03.0

Prerequisite(s): College Calculus and BIOST 2043

COVERS GENERATING FUNCTIONS AND CONVOLUTIONS OF RANDOM VARIABLES, THE POISSON AND COMPOUND POISSON DISTRIBUTIONS, BRANCHING PROCESSES, RANDOM WALK, AND THE GAMBLER'S RUIN PROBLEM, MARKOV CHAINS, AND SIMPLE BIRTH AND DEATH PROCESSES.

BIOST 2041 INTRO TO STATISTICAL METHODS 1**Credit(s): 03.0**

DISCUSSES TECHNIQUES FOR THE APPLICATION OF STATISTICAL THEORY TO ACTUAL DATA. TOPICS INCLUDE PROBABILITY THEORY, ESTIMATION OF PARAMETERS, AND TESTS OF HYPOTHESIS FOR BOTH THE DISCRETE AND CONTINUOUS CASE.

(Effective fall 2015, term 2161: When enrolling in BIOST 2041 you will also enroll in a required Recitation.)

BIOST 2041 INTRO TO STATISTICAL METHODS 1 - RECITATION**Credit(s): 00.0**

CLASSROOM INSTRUCTION USUALLY ASSOCIATED WITH A LECTURE WHICH FACILITATES INTERACTION BETWEEN THE STUDENT AND THE INSTRUCTOR.

[RECITATION for BIOST 2041, effective fall 2015, term 2161:
You will also enroll in the required Recitation.]

BIOST 2043 INTRO TO STATISTICAL THEORY 1**Credit(s): 03.0****Prerequisite(s): College Calculus**

COVERS JOINT, MARGINAL, AND CONDITIONAL PROBABILITIES; DISTRIBUTIONS OF RANDOM VARIABLES AND FUNCTIONS OF RANDOM VARIABLES; EXPECTATIONS OF RANDOM VARIABLES AND MOMENT GENERATING FUNCTIONS; LAW OF LARGE NUMBERS; CENTRAL LIMIT THEOREM.

BIOST 2044 INTRO TO STATISTICAL THEORY 2**Credit(s): 03.0****Prerequisite(s): BIOST 2043**

COVERS ELEMENTS OF STATISTICAL INFERENCE; SAMPLING DISTRIBUTIONS OF ESTIMATORS; RAO-CRAMER'S INEQUALITY; PROBLEMS OF TESTING STATISTICAL HYPOTHESES; NEYMAN-PEARSON LEMMA; LIKELIHOOD RATIO TESTS.

BIOST 2049 APPLIED REGRESSION ANALYSIS**Credit(s): 03.0****Prerequisite(s): BIOST 2039 or 2041**

This is an introductory course in statistical modelling intended for Masters or PhD students in biostatistics or other disciplines who have already had basic training in statistical methods. The course focuses on all types of regression methods with the following learning objectives:

- To fit and interpret linear regression models with multiple continuous and/or categorical predictors
- To fit and interpret generalized linear models (GLMs) with emphasis on logistic and Poisson regression.
- To justify and apply standard modelling procedures using data, including model interpretation and assessment of model adequacy.
- To analyze data sets taken from the fields of medicine and public health.
- To develop oral and written communication skills through the description of analytic strategies and the summarization and interpretation of results.

[Effective Spring term 2194: Co-req of BIOST 2042 removed--Pre-reqs BIOST 2039 or BIOST 2041.
Also revised course description.]

BIOST 2050 LONG AND CLUSTERED DATA ANALYS**Credit(s): 02.0****Prerequisite(s): BIOST 2049**

This introductory course in statistical modeling is intended for MS students in biostatistics and PhD students in biostatistics or epidemiology in their second year of graduate work. This course may be thought of as the third methods course in Biostatistics following BIOST 2041/2048 and BIOST 2049. The course focuses on regression methods for the analysis of longitudinal or more generally clustered data with emphasis on generalized estimating equation. The course objectives are to introduce generalized estimating equations (GEEs), mixed models, and generalized linear mixed models from an applied perspective to analyze longitudinal and clustered data, to understand the justification and applicability of standard procedures to standard problems, including model interpretation and assessment of model adequacy.

[New course for fall 2018, term 2191.]

BIOST 2051 STATISTICAL ESTIMATION THEORY**Credit(s): 03.0****Prerequisite(s): BIOST 2039 and BIOST 2044**

FISHER'S INFORMATION; RAO-CRAMER INEQUALITY AND SUFFICIENT STATISTICS; BHATTACHARYYA BOUNDS; RAO-BLACKWELL THEOREM; METHODS OF MOMENTS; THE METHOD OF MAXIMUM LIKELIHOOD; NEWTON-RAPHSON METHOD AND RAO'S SCORING FOR PARAMETERS; ESTIMATION OF SEVERAL PARAMETERS; ORDER STATISTICS AND LIFE-TESTING PROBLEMS; ESTIMATION WITH CENSORED DATA AND SURVIVAL ANALYSIS.

(Eff spring 2019, term 2194: Pre-reqs BIOST 2039(replaces 2042) and BIOST 2044.)

BIOST 2052 MULTIVARIATE ANALYSIS**Credit(s): 03.0****Prerequisite(s): BIOST 2044**

MULTIVARIATE NORMAL DISTRIBUTION, ESTIMATION OF THE MEAN VECTOR AND COVARIANCE MATRIX, DISTRIBUTIONS AND USES OF SIMPLE, PARTIAL AND MULTIPLE CORRELATION COEFFICIENTS, THE GENERALIZED T² STATISTIC, THE DISTRIBUTION OF THE SAMPLE GENERALIZED VARIANCE, MULTIVARIATE ANALYSIS OF VARIANCE AND THE MULTIVARIATE BEHRENS-FISHER PROBLEM. MULTIVARIATE METHODS ARE APPLIED TO REPEATED MEASURES ANALYSIS, FACTOR ANALYSIS, AND DISCRIMINANT ANALYSIS. THE BEGINNING OF THE COURSE EMPHASIZES THEORY. LATER APPLICATIONS AND COMPUTATIONAL METHODS ARE EMPHASIZED. LECTURES ARE OF CURRENT AND CLASSICAL LITERATURE. Prerequisite: Biost 2044 or permission of instructor.

BIOST 2054 SURVIVAL ANALYSIS**Credit(s): 03.0****Prerequisite(s): BIOST 2039 and BIOST 2044**

INTRODUCES THE STUDENT TO THE DESIGN CONSIDERATIONS AND STATISTICAL ANALYSIS OF CLINICAL TRIALS. COVERS THE THEORETICAL ASPECTS OF VARIOUS MODELS IN RELIABILITY THEORY AND THE PROPORTIONAL HAZARDS MODEL, AS WELL AS THE MORE APPLIED PROBLEMS OF INTERPRETING SPECIFIC DATA SETS AND DESIGNING LARGE-SCALE TRIALS.

[Effective Spring term 2194: Pre-reqs BIOST 2039(replaces 2042) and 2044.]

BIOST 2055 INTROD GNOMC ANAL 1: APPLCS**Credit(s): 03.0****Prerequisite(s): BIOST 2039**

THIS 3-CREDIT COURSE IS A GRADUATE LEVEL INTRODUCTION AND OVERVIEW OF MODERN HIGH-THROUGHPUT GENOMIC DATA ANALYSIS. IT IS DESIGNED FOR GRADUATE STUDENTS IN BIOSTATISTICS AND HUMAN GENETICS WHO ARE INTERESTED IN THE TECHNOLOGY AND ELEMENTARY DATA MINING OF HIGH-THROUGHPUT GENOMIC DATA (INCLUDING BUT NOT LIMITED TO CLASSICAL EXPRESSION ARRAYS, VARIOUS ARRAY-BASED APPLICATIONS, NEXT-GENERATION SEQUENCING AND PROTEOMICS). THE COURSE IS ALSO HELPFUL FOR BIOLOGY STUDENTS WITH BASIC QUANTITATIVE TRAINING (E.G. TWO ELEMENTARY STATISTICS COURSES AND R PROGRAMMING) WHO HAVE INTERESTS IN UNDERSTANDING THE INTUITION AND LOGIC UNDERLYING THE DATA ANALYSIS METHODS. R IS THE MAJOR LANGUAGE USED IN THE COURSE.

[Eff spring 2019, term 2194: Pre-req BIOST 2039(replaces 2042).]

BIOST 2056 INTRO TO DIAG TEST EVAL & ROC**Credit(s): 03.0****Prerequisite(s): BIOST 2039 and BIOST 2044**

THE COURSE OFFERS AN INTRODUCTION TO CONCEPTS AND APPROACHES FOR STATISTICAL ASSESSMENT OF DIAGNOSTIC SYSTEMS AND ROC ANALYSIS. THE COVERED MATERIAL INCLUDES DIFFERENT MEASURES OF DIAGNOSTIC ACCURACY, ASPECTS OF THE DESIGN OF ACCURACY STUDIES, STATISTICAL ESTIMATION AND HYPOTHESIS TESTING, SAMPLE SIZE CALCULATION AND SOME ADVANCED TOPICS. GENERAL PREREQUISITES INCLUDE KNOWLEDGE OF BASIC STATISTICAL CONCEPTS AND APPROACHES RELATED TO ESTIMATION AND HYPOTHESIS TESTING; SOME KNOWLEDGE OF REGRESSION MODELING AND SAS IS DESIRABLE.

[Eff spring 2019, term 2194: Pre-reqs BIOST 2039 and 2044.]
(replacing pre-reqs BIOST 2041, 2042, 2043, 2044.)

BIOST 2058 SCIENTFC COMMUNICATION SKILLS**Credit(s): 02.0**

THIS COURSE IS MEANT TO HELP STUDENTS DEVELOP ORAL, VISUAL AND WRITTEN SCIENTIFIC COMMUNICATION SKILLS AND TO FAMILIARIZE STUDENTS WITH RESEARCH RESOURCES. STUDENTS MAY USE THEIR OWN RESEARCH TOPIC, INCLUDING WORK ON A THESIS OR DISSERTATION, OR HELP WILL BE PROVIDED IN SELECTING ONE.

BIOST 2061 LIKELIHOOD THEORY & APPLICATN**Credit(s): 02.0****Prerequisite(s): BIOST 2044**

THE PURPOSE OF THIS COURSE IS TO INTRODUCE THE STUDENT TO MODERN LIKELIHOOD THEORY AND ITS APPLICATIONS. THE COURSE WILL COVER MAXIMUM LIKELIHOOD THEORY, PROFILE LIKELIHOOD THEORY, PSEUDO LIKELIHOOD THEORY AND GENERALIZED ESTIMATING EQUATIONS. THE COURSE IS TAUGHT AT A DOCTORAL LEVEL AND MUCH OF THE THEORY IS ILLUSTRATED THROUGH APPLICATIONS.

BIOST 2062 CLINICAL TRIALS: METHODS & PRACTICE **Credit(s): 03.0**

Prerequisite(s): BIOST 2039 and BIOST 2093

COURSE CONSISTS OF TWO WEEKLY LECTURES, POSTED ON THE WEB IN ADVANCE, AND TWO IN-CLASS SESSIONS WHICH CONSIST OF QUESTIONS AND ANSWERS RELATED TO THE WEB-BASED INFORMATION, PROBLEM-SOLVING, OR DISCUSSION OF CASE STUDIES. IT COVERS FUNDAMENTAL CONCEPTS IN THE DESIGN AND CONDUCT OF MODERN CLINICAL TRIALS. TOPICS INCLUDE: EXPERIMENTAL DESIGNS FOR SAFETY AND EFFICACY TRIALS, QUANTITATIVE METHODS FOR DESIGN, INTERIM MONITORING, AND ANALYSIS OF RANDOMIZED COMPARATIVE CLINICAL TRIALS INCLUDING CROSSOVER, FACTORIAL AND EQUIVALENCE DESIGNS. ETHICAL, ORGANIZATIONAL, AND PRACTICAL CONSIDERATIONS OF DESIGN AND CONDUCT OF SINGLE AND MULTICENTER STUDIES ARE INTEGRATED IN LECTURES AND CASE STUDIES. THE COURSE ALSO COVERS INTERNATIONAL GUIDELINES ON STATISTICAL CONSIDERATIONS FOR DRUG DEVELOPMENT, GUIDELINES ADOPTED FOR PUBLICATION OF TRIALS IN MAJOR MEDICAL JOURNALS, AND RECOMMENDED APPROACHES FOR META-ANALYSES.

[Effective Spring term 2194: Pre-requisite of BIOST 2039(replaces 2042) and BIOST 2093.]

BIOST 2063 BAYESIAN DATA SCIENCE **Credit(s): 03.0**

Prerequisite(s): (BIOST 2039 or BIOST 2041) and BIOST 2049

This is a course in Bayesian methods for applied statistics and data science whose broad goal is to provide students with the skills needed to be able to select, conduct, report and interpret appropriate Bayesian analyses for a wide variety of applied problems. General topics covered include Bayesian concepts of statistical inference, Markov chain Monte Carlo and other computational methods, linear, hierarchical and generalized linear models, model selection and diagnostics, and Bayesian learning. The course explores the use of the popular and free software packages R, JAGS and Stan for conducting Bayesian analyses.

[Effective spring 2019, term 2194: title, course description, pre-req changes.]

[Pre-reqs 2039(replaces 2042) or 2041 and 2049--removing 2044.]

BIOST 2065 ANALYSIS OF INCOMPLETE DATA **Credit(s): 03.0**

Prerequisite(s): BIOST 2049 and BIOST 2051 and BIOST 2061

THIS COURSE WILL PRESENT MISSING DATA PROBLEMS IN STATISTICS AND DISCUSS NAÏVE METHODS SUCH AS COMPLETE CASE ANALYSIS, AVAILABLE CASE ANALYSIS AND IMPUTATION; STANDARD LIKELIHOOD-BASED METHODS, THEORY AND APPLICATION OF MULTIPLE IMPUTATION, DATA AUGMENTATION, GIBBS SAMPLER, AND SOME RECENTLY DEVELOPED METHODOLOGIES IN THE MISSING DATA LITERATURE AND RELATED FIELDS.

BIOST 2066 APPLIED SURVIVAL ANALYSIS METHODS & PRACTICE **Credit(s): 02.0**

Prerequisite(s): BIOST 2049

THIS COURSE COVERS FUNDAMENTAL CONCEPTS AND METHODS IMPORTANT FOR ANALYSIS OF DATASETS WHERE THE OUTCOME IS THE TIME TO AN EVENT OF INTEREST, SUCH AS DEATH, DISEASE OCCURRENCE OR DISEASE PROGRESSION. TOPICS INCLUDE: BASIC METHODS FOR SUMMARIZING AND PRESENTING TIME-TO-EVENT DATA IN TABULAR FORM AND GRAPHICALLY AS LIFE TABLES, NON-PARAMETRIC STATISTICAL TECHNIQUES FOR TESTING HYPOTHESES COMPARING LIFE TABLES FOR TWO OR MORE GROUPS; APPROACHES TO FITTING THE SEMI-PARAMETRIC COX PROPORTIONAL HAZARD MODEL AND OTHER COMMONLY USED PARAMETRIC MODELS THAT INCORPORATE STUDY COVARIABLES, METHODS FOR ASSESSING GOODNESS-OF-FIT OF THE MODELS, AND SAMPLE SIZE CONSIDERATIONS. IN ADDITION TO DIDACTIC LECTURES, THERE ARE GROUP PROJECTS THAT INVOLVE ANALYSIS OF DATASETS AND PRESENTATION OF ANALYTIC REPORTS IN THE CLASSROOM.

[Revised fall 2018, term 2191; credit decrease.]

BIOST 2077 SPECIAL TOPICS **Credit(s): 03.0**

INTRODUCES THE STUDENT TO SPECIALIZED TOPICS IN BIostatISTICS THAT ARE NOT COVERED IN THE FORMAL CURRICULUM.

BIOST 2078 HIGH-DIMENSIONAL DATA WITH OMICS APPLICATIONS **Credit(s): 02.0**

Prerequisite(s): BIOST 2039 and BIOST 2043

This 2-credit course is a graduate level course to introduce theories and algorithms for statistical analysis of high-throughput genomic data. Emphases will be given to high-dimensional data analysis and theories behind the commonly used methods. This course is designed for graduate students who already have sufficient statistical background, have basic knowledge of various high-throughput genomic experiments (e.g. already finished BIOST 2055 or MSCBIO 2070) and wish to learn advanced statistical theories for bioinformatics and genomics research. Students are expected to have programming experiences in R (e.g. BIOST 2094) or in other low-level languages such as C, C++, Java and Fortran. The course will meet four hours per week for half a semester.

[Effective spring 2019, term 2194: Pre-reqs BIOST 2039(replaces 2041) and 2043.]

[Revised course spring 2018, term 2184; title, credit, description.]

BIOST 2081 MATHEMATICAL METHODS FOR STAT **Credit(s): 03.0**
DIFFERENTIATION AND INTEGRATION OF FUNCTIONS OF SEVERAL VARIABLES. INFINITE SEQUENCES AND SERIES. FUNDAMENTALS OF MATRIX ALGEBRA. CLASS EXAMPLES AND HOMEWORK PROBLEMS WILL EMPHASIZE APPLICATIONS TO PROBABILITY AND STATISTICS.

(Enrollment requirement: Biostatistics (PhD; MPH; MS) effective fall 2015, term 2161.)

BIOST 2083 LINEAR MODELS **Credit(s): 03.0**
Prerequisite(s): BIOST 2044
ACQUAINTS STUDENTS WITH LINEAR MODEL TECHNIQUES FOR ANALYZING BOTH BALANCED AND UNBALANCED DATA. THE TOPICS COVERED INCLUDE GENERALIZED INVERSES, ORTHOGONAL CONTRASTS WITH UNBALANCED DATA, AND ANALYSIS OF COVARIANCE. ANALYSIS WITH COMPUTER PACKAGED PROGRAMS IS DISCUSSED.

BIOST 2086 APPLIED MIXED MODELS ANALYSIS **Credit(s): 03.0**
Prerequisite(s): BIOST 2083
MIXED MODEL ANALYSIS PROVIDES A NEW APPROACH TO MODELING WHICH ALLOWS ONE TO RELAX THE USUAL INDEPENDENCE ASSUMPTIONS AND TAKE INTO ACCOUNT COMPLICATED DATA STRUCTURES. THIS COURSE WILL CONSIDER ALL TYPES OF MIXED MODELS INTO A GENERAL FRAMEWORK AND CONSIDER THE PRACTICAL IMPLICATIONS OF THEIR USE. TOPICS WILL INCLUDE: NORMAL MIXED MODELS, GENERALIZED MIXED MODELS, AND MIXED MODELS FOR CATEGORICAL DATA, REPEATED MEASURES DATA ANALYSIS AND CROSS-OVER TRIALS WITH MIXED MODELS. SOFTWARE FOR FITTING MIXED MODELS WILL BE DISCUSSED.

BIOST 2087 BIOST CONSULTING PRACTICUM **Credit(s): 01.0**
PROVIDES ADVANCED STUDENTS (SECOND-YEAR MASTERS AND DOCTORAL) WITH EXPOSURE AND PRACTICAL EXPERIENCE IN CONSULTING ON THE BIOSTATISTICAL ASPECTS OF RESEARCH PROBLEMS ARISING IN THE BIOMEDICAL OR OTHER ALLIED FIELDS. STUDENTS INITIALLY UNDER THE SUPERVISION OF A FACULTY MEMBER PARTICIPATE IN DISCUSSIONS WITH INVESTIGATORS LEADING TO THE DESIGN AND/OR ANALYSIS OF A CURRENT RESEARCH PROBLEM.

BIOST 2087 BIOST CONSULTING PRACTICUM - LAB **Credit(s): 00.0**
LABORATORY

BIOST 2093 SAS DATA MANAGEMENT & ANALYSIS **Credit(s): 02.0**
Prerequisite(s): BIOST 2039
THE GOAL OF THIS COURSE IS TO PROVIDE STUDENTS WITH AN UNDERSTANDING OF THE SAS PROGRAM ENVIRONMENT AS WELL AS THE SKILLS NEEDED TO USE SAS AS A TOOL TO CONDUCT RESEARCH, PREPARE DATA, AND PERFORM ANALYSES. UPON COMPLETION OF THE COURSE THE STUDENT WILL HAVE AN UNDERSTANDING OF SAS AT THE INTERMEDIATE LEVEL. THE COURSE COVERS THE UTILITY OF SAS AS A DATA MANAGEMENT, DATA MANIPULATION, AND DATA ANALYSIS TOOL. THE FOCUS WILL NOT BE STATISTICAL ANALYSIS, BUT RATHER HOW TO USE SAS AS A PROGRAMMING TOOL. EMPHASIS WILL BE PLACED ON PROGRAM CODE WRITING. CONCEPTS WILL BE ILLUSTRATED WITH NUMEROUS EXAMPLES FROM BASIC DESCRIPTIVE ANALYSIS.
(Note: Students should have a basic understanding of the PC computer environment with some exposure to the Windows operating system.)

[Effective Spring term 2194: Co-req of BIOST 2039(replaces 2041).]

BIOST 2094 ADVANCED R COMPUTING **Credit(s): 02.0**
Prerequisite(s): BIOST 2039 and BIOST 2043
An advanced statistical computing course using R designed for graduate level biostatistics students with programming experience in R or other low-level languages such as C, C++, Java, and/or Fortran. Experience in SAS and/or Stata does not qualify. The course will cover topics, including but not limited to, R in modeling and optimization, advanced R graphics, functional programming, object-oriented field guide, efficient computing in R, GUI for R-shiny, embedding C/C++, R package/documentation, Julia, Github etc. The course will also include real life application for students to practice the programming techniques learned in class.

[Eff spring 2019, term 2194; Pre-reqs BIOST 2039(replacing 2041) and BIOST 2043.]

[Revised course: for biost students; title, course description, pre-reqs changed, effective 4/30/17.]

[Effective Spring term 2194: Pre-req changed from BIOST 2041 to BIOST 2039; pre-req BIOST 2043 remains unchanged.]

BIOST 2096 NUMERICAL METHODS IN BIostatISTICS Credit(s): 03.0

Prerequisite(s): BIOST 2044 and BIOST 2049

THE PURPOSE IS TO FAMILIARIZE STUDENTS WITH A BROADER RANGE OF NUMERICAL METHODS WHICH ARE USEFUL IN BIostatISTICAL RESEARCH. SELECTED COMPUTATIONAL TECHNIQUES USED IN STATISTICAL RESEARCH WILL BE COVERED. SOME BACKGROUND WILL BE PROVIDED TO FACILITATE UNDERSTANDING OF A FEW NUMERICAL ALGORITHMS WIDELY USED IN STATISTICS. THE FOLLOWING ARE COVERED: RECURRENCE RELATIONS, POWER SERIES AND ASYMPTOTIC EXPANSIONS, GENERATING PSEUDO-RANDOM DEVIATES, BASIC SIMULATION METHODOLOGY, SOLUTIONS OF NONLINEAR EQUATIONS, NEWTON'S METHOD, VECTOR AND MATRIX NORMS, LINEAR REGRESSION AND MATRIX INVERSION.

BIOST 3010 RESEARCH AND DISSERTATION PHD Credit(s): 01.0 to 15.0

DISSERTATION CREDITS FOR QUALIFIED DOCTORAL STUDENTS IN THE DEPARTMENT OF BIostatISTICS.

EOH 2013 ENVIRONMENTAL HEALTH AND DISEASE Credit(s): 02.0

THIS IS THE GRADUATE SCHOOL OF PUBLIC HEALTH CORE CURRICULUM COURSE IN ENVIRONMENTAL AND OCCUPATIONAL HEALTH. THE WORLD HEALTH ORGANIZATION DEFINES ENVIRONMENTAL HEALTH AS "THOSE ASPECTS OF HUMAN HEALTH, INCLUDING QUALITIES OF LIFE THAT ARE DETERMINED BY PHYSICAL, BIOLOGICAL, SOCIAL, AND PSYCHOSOCIAL FACTORS IN THE ENVIRONMENT." THE DISCIPLINE OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH REFERS TO THE "THEORY AND PRACTICE OF ASSESSING, CORRECTING, CONTROLLING, AND PREVENTING THOSE FACTORS IN THE ENVIRONMENT THAT CAN ADVERSELY AFFECT THE HEALTH OF PRESENT AND FUTURE GENERATIONS." THIS COURSE WILL FAMILIARIZE THE STUDENTS WITH CURRENT ISSUES AND PRACTICES IN ENVIRONMENTAL AND OCCUPATIONAL HEALTH, AS WELL AS ASSESSMENT OF THE RISK OF ENVIRONMENTAL EXPOSURES. IT IS DESIGNED TO INTRODUCE THE STUDENTS TO KNOWLEDGE BASIC TO PUBLIC HEALTH, FOCUSING ON CHEMICAL AND PHYSICAL ENVIRONMENTAL FACTORS AFFECTING THE HEALTH OF THE COMMUNITY. *****Classroom & Courseweb*****

[Effective Fall 2018, Term 2191: credit change from 03.0 to 02.0.]

EOH 2021 SPECIAL STUDIES Credit(s): 01.0 to 15.0

PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE ADVANCED STUDY UNDER THE GUIDANCE OF A FACULTY MEMBER.

EOH 2022 SPECIAL TOPICS Credit(s): 01.0 to 03.0

PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE ADVANCED STUDY UNDER THE GUIDANCE OF A MEMBER OF THE FACULTY.

EOH 2022 SPECIAL TOPICS Credit(s): 01.0 to 03.0

PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE ADVANCED STUDY UNDER THE GUIDANCE OF A MEMBER OF THE FACULTY.

EOH 2108 ENVIRON & OCUPTNL HEALTH PRAC Credit(s): 02.0

THIS PRACTICUM PROVIDES AN OPPORTUNITY FOR EOH MPH STUDENT TO DEMONSTRATE INTEGRATION AND APPLICATION OF KNOWLEDGE IN THE AREA OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH THROUGH A CULMINATING EXPERIENCE. THIS IS A FACULTY SUPERVISED APPLIED RESEARCH OR PROBLEM SOLVING PROJECT IN CONSULTATION WITH A HEALTH ENVIRONMENT RELATED AGENCY OR ORGANIZATION. STUDENT PARTICIPATES AFTER COMPLETION OF COURSE WORK. THE PRACTICUM INCLUDES PREPARATION, CONTRIBUTION TO FIELD WORK, AND A FINAL WRITTEN REPORT WHICH MAY BE THE BASIS FOR A MASTER'S ESSAY.

EOH 2109 MOLECLR TOXICOLOGY JOURN CLUB Credit(s): 01.0

THE COURSE IS FOR STUDENTS TO GAIN EXPERIENCE IN THE PRESENTATION AND DISCUSSION OF TOPICS OF CURRENT INTEREST IN THE FIELDS OF INDUSTRIAL AND ENVIRONMENTAL HEALTH SCIENCES AND TOXICOLOGY. THE FORMAT IS ONE HOUR WEEKLY JOURNAL CLUB PRESENTED BY THE STUDENTS. OUR GOALS ARE TO EXPOSE STUDENTS TO THE MOST EXCITING RESEARCH IN OUR FIELD OF INTEREST. SECONDLY, TO PROVIDE A FORUM TO HONE SKILLS IN ORGANIZING AND PRESENTING SCIENTIFIC DATA, AS WELL AS CRITICALLY DISCUSSING PUBLISHED WORK.

EOH 2110 ROTATION/PRACTICUM Credit(s): 02.0

THIS COURSE IS DESIGNED TO BE A PRACTICAL RESEARCH EXPERIENCE FOR PhD STUDENTS, GOALS OF WHICH ARE FOR STUDENTS TO GAIN RESEARCH EXPERIENCE WITHIN LABORATORIES OF FACULTY WITHIN THE MOLECUAR TOXICOLOGY TRAINING PROGRAM. EACH LABORATORY ROTATION WILL BE 8 WEEKS IN DURATION WITH 2 ROTATIONS. STUDENTS WILL BE REQUIRED TO WRITE A REPORT ON THEIR RESEARCH PROJECT UPON COMPLETION OF THE LABORATORY COMPONENT.

EOH 2122 TRANSPORT & FATE ENVIRONMENTAL AGENTS**Credit(s): 03.0**

THIS COURSE PRESENTS IN A QUANTITATIVE FASHION THE MOVEMENT, TRANSFORMATION, BIOACCUMULATION, AND FATE OF VARIOUS PHYSICAL, BIOLOGICAL, AND CHEMICAL AGENTS THROUGH THE ENVIRONMENT, HOME, AND OCCUPATIONAL SETTINGS. CHEMICAL DEGRADATION, ATMOSPHERIC TRANSPORT, SURFACE AND GROUNDWATER SEDIMENTS, AND CONCENTRATION BY BIOLOGICAL SYSTEMS ARE DESCRIBED, INCLUDING MOVEMENT THROUGH FOOD CHAINS; ALSO INDOOR TRANSPORT AND VENTILATION.

EOH 2175 PRINCIPLES OF TOXICOLOGY**Credit(s): 03.0**

THIS COURSE WILL INTRODUCE STUDENTS TO THE PRINCIPLES GOVERNING THE INTERACTION OF CHEMICALS WITHIN THE HUMAN BODY. MAJOR ORGAN SYSTEMS WILL BE DESCRIBED WITH REGARD TO ANATOMY, PHYSIOLOGY AND EFFECTS FROM INTERACTIONS WITH CHEMICALS.

EOH 2180 INTRODUCTION TO RISK SCIENCES**Credit(s): 01.0****Corequisite(s): EOH 2181**

COURSE WILL EXPLORE ISSUES SURROUNDING ENVIRONMENTAL AND OCCUPATIONAL RISKS WITH FOCUS ON ADVERSE HUMAN HEALTH EFFECTS. WILL PROVIDE OVERVIEW OF RISK SCIENCES INCLUDING: RISK ASSESSMENT, RISK PERCEPTION, RISK COMMUNICATION AND RISK MANAGEMENT. DETAILED ATTENTION TO METHODS FOR QUALITATIVE AND QUANTITATIVE CHARACTERIZATION OF RISKS TO HUMAN HEALTH. QUALITATIVE AND QUANTITATIVE APPROACHES FOR RISK ASSESSMENT WILL CONSIDER METHODS FOR ASSESSMENT OF CANCER AND NON-CANCER HEALTH RISKS USING FOUR STEP PARADIGM BY NATIONAL ACADEMY OF SCIENCES.

(Coreq eff for spring 2012.)

EOH 2181 RISK ASSESSMENT PRACTICUM**Credit(s): 02.0****Corequisite(s): EOH 2180**

PRACTICUM WILL PROVIDE THE STUDENT OPPORTUNITY TO CONDUCT A QUANTITATIVE RISK ASSESSMENT FOR HUMAN HEALTH ENDPOINT (EITHER CANCER OR NON-CANCER) FROM AN ENVIRONMENTAL AND OCCUPATIONAL EXPOSURE. STUDENTS WILL LEARN TO IDENTIFY HUMAN HEALTH HAZARDS, CHARACTERIZE DOSE RESPONSE RELATIONSHIPS AND SITE AND MECHANISMS OF ACTION, CONDUCT EXPOSURE CHARACTERIZATION AND USE THAT DATA TO CHARACTERIZE RISKS TO HUMAN HEALTH.

(Coreq eff for spring 2012.)

EOH 2309 ENVIRONMENTAL HEALTH CHEMISTRY**Credit(s): 03.0**

THE ORGANIC, INORGANIC AND MECHANISTIC BIOCHEMICAL DETAILS OF INTERACTIONS OF TOXINS AND BIOLOGICAL SYSTEMS WILL BE PRESENTED. EMPHASIS ON CHEMICAL UNDERSTANDING OF POTENTIAL TOXICOLOGICAL SEQUELAE OF SUCH INTERACTIONS. STUDENTS PRESENT ONE LECTURE ON BIOORGANIC TOXICOLOGICAL TOPIC SYNTHESIZED FROM RECENT SCIENTIFIC LITERATURE.

EOH 2310 MOLECULAR FUNDAMENTALS**Credit(s): 03.0**

COURSE IS DESIGNED TO BE A REVIEW OF THE FUNDAMENTALS OF BIOCHEMISTRY, MOLECULAR BIOLOGY, AND CELL BIOLOGY. IT WILL BE TAUGHT IN THE FIRST SEMESTER FOR PHD STUDENTS AND THE FIRST OR THIRD SEMESTER FOR MPH STUDENTS. STUDENTS WILL BE EXPECTED TO HAVE A SOLID UNDERGRAD BACKGROUND IN BIOLOGY. THERE IS SIGNIFICANT TIME DEVOTED TO TECHNIQUES, WITH THE GOAL OF PROVIDING BACKGROUND FOR PHD STUDENTS BEGINNING THEIR RESEARCH CAREERS, AND A PERSPECTIVE FOR MPH STUDENTS ON THE AVAILABILITY AND UTILITY OF MODERN BIOLOGICAL RESEARCH METHODS.

EOH 2313 BIOINORGANIC CHEM TOXICOLOGIST**Credit(s): 02.0**

THIS COURSE WILL COVER THE ESSENTIAL INORGANIC CHEMISTRY UNDERLYING OXIDATIVE STRESS IN CONSIDERABLE DEPTH. IT WILL INTRODUCE KEY CONCEPTS AND TERMINOLOGY. IT WILL PROVIDE STUDENTS WITH ILLUSTRATIVE EXAMPLES ON HOW THIS CHEMISTRY IMPINGES ON CELLULAR PROCESSES. THE STUDENT WILL LEARN TO THINK OF THESE THINGS IN TERMS OF PROPERLY BALANCED CHEMICAL EQUATIONS, STRESSING THE INTERDEPENDENCY OF MANY COMPETING REACTIONS.

EOH 2504 PRIN OF ENVIRONMENTAL EXPOSURE**Credit(s): 03.0**

THIS COURSE INTRODUCES CONCEPTS INHERENT IN RECOGNITION OF SOURCES, CONTAMINANT GENERATION, TRANSPORT AND UPTAKE OF CHEMICAL, BIOLOGICAL AND PHYSICAL STRESSES IN THE CONTEXT OF POTENTIAL ENVIRONMENTAL EXPOSURES RELATED TO HUMAN HEALTH. THIS COURSE PREPARES STUDENTS TO UNDERSTAND EXPOSURE ASSESSMENT IN ANTICIPATION, RECOGNITION, EVALUATION AND INTERVENTION AS UTILIZED IN RISK ASSESSMENT AND COMPOSITION OF MATTER, EXPOSURE PATHWAYS, PATHWAY ASSESSMENT METHODS INCLUDING MEASUREMENT, ANALOGY AND EXPOSURE MODELING.

EOH 2513 POLC DEC MKG PH EMRGY/BIOTERSM Credit(s): 03.0

THIS THREE-CREDIT GRADUATE COURSE FOCUSES ON PUBLIC HEALTH EMERGENCIES AND BIOTERRORISM AT THE PHASES OF PREPAREDNESS, MITIGATION, AND RESPONSE. THE COURSE EMPHASIZES NOT ONLY BIOLOGICAL AGENTS BUT ALSO ALL HAZARDS WITH PUBLIC HEALTH CONSEQUENCES. IT ADDRESSES THE INTERFACES OF POLICIES AND LAWS IN THE CONTEXT OF FEDERALISM, WHICH REQUIRES INTERACTION AMONG THE FEDERAL, STATE, AND LOCAL LEVELS OF GOVERNMENT. THE COURSE CONSIDERS THE CRITICAL ROLE OF PRIVATE-SECTOR HEALTH CARE PROVIDERS IN ADDITION TO GOVERNMENTAL DECISION MAKERS. STUDENTS EXPLORE PAST EMERGENCIES THROUGH HISTORY AND CASE STUDIES, CONDUCT DIRECTED RESEARCH ON A CHOSEN POLICY ISSUE, AND EXPERIENCE DECISION-MAKING IN THE CONTEXT OF A SIMULATED EMERGENCY BY PLAYING A CHOSEN AND PREVIOUSLY RESEARCHED OFFICIAL ROLE. TEACHING METHODS INCLUDE LECTURES, CASE STUDIES, POLICY RESEARCH AND WRITING, INTERDISCIPLINARY CLASSROOM DISCUSSION, AND SIMULATED DECISION-MAKING.

(The prerequisite is to be currently enrolled in a graduate or professional degree program, but this may be waived by the Course Director.)

EOH 2515 EOH PREPAREDNESS Credit(s): 02.0

THIS COURSE WILL BE A GRADUATE LEVEL COURSE FOCUSING ON ENVIRONMENTAL HEALTH HAZARDS WITH RESPECT TO DISASTER PREPARATION, DIDACTIC AND EXPERIMENTAL ASPECTS OF COURSE WILL INCLUDE CORE PRINCIPLES OF ENVIRONMENTAL HEALTH SAFETY. STUDENTS WILL EXAMINE CHALLENGES WITH RESPECT TO NATURAL AND MAN-MADE DISASTERS TO ALLOW STUDENTS TO PREPARE PROGRAMS TO HANDLE ENVIRONMENTAL HEALTH EMERGENCIES.

EOH 3010 RESEARCH AND DISSERTATION PHD Credit(s): 01.0 to 15.0

DISSERTATION CREDITS FOR QUALIFIED DOCTORAL STUDENTS IN THE DEPARTMENT OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH.

EOH 3210 PATHOPHYSIOLOGY ENVRL DISEASE Credit(s): 03.0

THIS GRADUATE LEVEL COURSE FOCUSES ON THE ETIOLOGY AND PATHOGENESIS OF HUMAN DISEASE AND HOW THE DISEASE PROCESS AFFECTS NORMAL PHYSIOLOGIC FUNCTION. THE COURSE WILL INCLUDE A DIDACTIC COMPONENT COVERING THE NORMAL ANATOMY AND FUNCTION OF THE MAJOR ORGAN SYSTEMS AND A SERIES OF STUDENT-LED PRESENTATIONS AND DISCUSSIONS OF THE NATURE AND CAUSE OF COMMONLY ENCOUNTERED DISEASES AND OR INJURIES. STUDENTS WILL BE EXPECTED TO APPLY BASIC MECHANISTIC PHYSIOLOGIC PRINCIPLES OF EACH ORGAN SYSTEM IN CURRENT PUBLIC HEALTH AND ENVIRONMENTALLY RELEVANT TOPICS

[New course to be offered in Spring 2015, Term 2154]

EOH 3305 GENOME INSTABILITY & HUMN DS Credit(s): 03..0

MECHANISMS THAT MAINTAIN GENOME STABILITY ALLOWED THE ORIGIN OF SPECIES. DNA DAMAGE IS OMNIPRESENT AND DNA REPAIR AND DNA DAMAGE TOLERANCE MECHANISMS ARE INTERWOVEN IN SYSTEMS THAT CONTROL TRANSCRIPTION, REPLICATION, CELL DIVISION, SIGNAL TRANSDUCTION, CELL DEATH AND EVOLUTION. MORE THAN 40 DISTINCT HUMAN DISEASES ARE CAUSED BY DEFECTS IN DNA REPAIR, INCLUDING SYNDROMES OF IMPAIRED DEVELOPMENT, IMMUNODEFICIENCY, CANCER PREDISPOSITION, NEURODEGENERATION, AND PREMATURE AGING. THIS COURSE WILL EMPHASIZE THE MOLECULAR BIOLOGY AND BIOCHEMISTRY OF DNA REPAIR, PLACING THESE MECHANISMS INTO THE CONTEXT OF OTHER CELLULAR PROCESSES AS THEY PERTAIN TO HEALTH AND DISEASE. ENVIRONMENTAL, CLINICAL AND ENDOGENOUS SOURCES OF DNA DAMAGE WILL BE DISCUSSED. AN UNDERSTANDING OF THE FUNDAMENTAL ROLE OF DNA REPAIR MECHANISMS IN IMMUNOLOGY, ONCOLOGY, NEUROLOGY, AND AGING WILL BE CENTRAL TO ALL LECTURES.

Effective spring 2016, term 2164, title change.

EPIDEM 2004 PATHPHYLG ACROSS LIFE SPAN Credit(s): 04.0

This course is designed to provide the student with a comprehensive theoretical foundation of the phenomena that produce alterations in human physiologic function in diverse populations across the life span. Information gained in this course will prepare the student for subsequent courses related to the diagnosis and management of disease processes associated with pathophysiologic dysfunction/alterations in people of various ethnic/cultural groups across the life span.

[Effective summer 2017, term 2177, revised course description.]

EPIDEM 2012 NEUROEPIDEMIOLOGY**Credit(s): 02.0**

This course focuses on the application of the methods of epidemiology to understand the pathogenesis and etiology of conditions affecting the central nervous system. This course covers epidemiological approaches, etiological perspectives and methodologies to assess disorders of the central nervous system (CNS), with a special emphasis of neurocognitive assessment and neuroimaging methods. This course also provides guided and critical knowledge of existing neuroepidemiological studies through the research practicum. In addition to students pursuing Doctoral and Master level degrees in Epidemiology, this course is designed to reach trainees in a variety of fields, including medicine, neurology, psychiatry, physical medicine and rehabilitation, neuroscience, psychology and computer science. Emphasis is placed on: a. descriptive epidemiology methods; b. factors that influence vulnerability to onset, progression and response to treatment of neurological diseases, including geographic variations; c. methodologies to assess disorders of the central nervous system (CNS), including behavioral neuropsychological assessments and cutting-edge multimodal neuroimaging. Separate sessions will be available upon request for students less familiar with epidemiology methods (descriptive, analytic, experimental).

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2017 POPULATION NEUROSCIENCE SEM**Credit(s): 01.0**

This seminar focuses on the methods and current literature in population neuroscience. Population neuroscience draws from multiple fields, including epidemiology, neuroimaging, and cognitive psychology, to understand the intrinsic (e.g. genetic) and extrinsic (e.g. environmental) factors that contribute to brain structure and function in various populations (healthy, aging, and diseased).

[New course for fall 2016, term 2171.]

EPIDEM 2019 INT MULTMOD NEURIMG APP POP NS**Credit(s): 02.0**

There have been great advances in neuroimaging techniques, which allow neuroscientists to visualize molecular, cellular and system physiology and functions. The Introduction to Multimodal Neuroimaging course will teach the underlying principles of neuroimaging techniques, including data modeling and visualization. Special emphasis will be on the discussion of the strengths and limitations of each technique, and on novel approaches to utilize complementary imaging modalities. The course will teach the principles and research applications of neuroimaging modalities via basic lectures and workshops that emphasize the integration of multiple imaging modalities.

[New course summer 2019, term 2197.]

EPIDEM 2023 PARTCPTRY MODLNG & SIMUL IN PH**Credit(s): 03.0****Prerequisite(s): BIOST 2041**

COMPUTATIONAL MODELING AND SIMULATION HAS BECOME CENTRAL TO PUBLIC HEALTH POLICY DESIGN AND DECISION-MAKING AT ALL LEVELS, FROM LOCAL TO INTERNATIONAL. OVERWHELMINGLY, MODEL-BUILDING HAS BECOME AN INTERDISCIPLINARY TEAM EFFORT, IN WHICH DOMAIN EXPERTS (E.G., PHYSICIANS, PUBLIC HEALTH PROFESSIONALS, EPIDEMIOLOGISTS, INFECTIOUS DISEASE MODELERS, POLICY MAKERS, AND COMPUTER PROGRAMMERS) ALL PARTICIPATE IN CONSTRUCTING MODELS. UNLIKE COURSES IN MODELING PROPER--WHERE MATHEMATICAL OR PROGRAMMING TECHNIQUES ARE TAUGHT--THIS COURSE EQUIPS STUDENTS TO BE "PARTICIPATORY" MODELERS (WORKING WITH PROGRAMMERS AND OTHER MODELERS), AND OFFERS HANDS-ON EXPERIENCE IN WORKING WITH PROGRAMMERS, AND IN EVALUATING ONE'S COLLABORATIVE MODEL, THROUGH SENSITIVITY ANALYSES AND APPROPRIATE VISUALIZATION. OTHER TOPICS WILL INCLUDE HOW TO PRESENT MODEL RESULTS, HOW TO CONSUME THEM, AND HOW TO MATCH THE TECHNIQUE TO THE PROBLEM IN PUBLIC HEALTH.

EPIDEM 2110 PRINCIPLES OF EPIDEMIOLOGY**Credit(s): 03.0**

Epidemiology is a scientific discipline which seeks to identify and describe patterns of disease occurrence, identify determinants of disease, and evaluate disease prevention and health care treatment efforts. With its focus of study in human populations, epidemiology is directly linked with public health research, policy, and practice. This course provides an introduction to the fundamental definitions, terminology, concepts, methods, and critical thinking used in epidemiology. The material presented in this course is designed to lay the foundation for future study and practice in public health activities.

[Effective summer 2017, term 2177, revised course description]

EPIDEM 2141 LIFESTYLE INTERVENTION: THEORY**Credit(s): 02.0**

Translating the findings of clinical trials of lifestyle intervention for disease prevention into community settings is increasingly important. This course will provide the conceptual foundation needed for such public health initiatives and serves as a key component of the Prevention, Lifestyle Intervention, and Physical Activity Area of Emphasis within the Department of Epidemiology. The background and rationale for behavioral lifestyle intervention will be covered in this course, as well as the relationship of lifestyle behaviors to chronic disease, with a focus on diabetes and cardiovascular disease. By attending this lecture-style course, students will receive behavioral lifestyle intervention training based upon a modified version of the Diabetes Prevention Program intervention protocol, called the Group Lifestyle Balance (DPP-GLB) program, which was adapted for use in the community setting. Upon successful completion of this class, each student will also receive a Certificate confirming that he/she was officially trained as a coach for the DPP-GLB intervention program.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2142 LIFESTYLE INTERVENTION PRACTCM**Credit(s): 03.0****Prerequisite(s): EPIDEM 2141**

THIS COURSE FOLLOWS THE LIFESTYLE INTERVENTION TRAINING THEORY COURSE. THE FOUNDATION FOR THIS PRACTICUM IS THE GROUP LIFESTYLE BALANCE (GLB) PROGRAM, A BEHAVIORAL LIFESTYLE INTERVENTION TRAINING BASED UPON A MODIFIED VERSION OF THE DIABETES PREVENTION PROGRAM INTERVENTION PROTOCOL. THE GLB HAS ALREADY BEEN DEVELOPED AND EVALUATED BY THE COURSE INSTRUCTORS. THE LIFESTYLE INTERVENTION TRAINING PRACTICUM WILL PROVIDE STUDENTS WITH THE OPPORTUNITY TO UTILIZE THEIR THEORETICAL KNOWLEDGE FOR BEHAVIORAL LIFESTYLE INTERVENTION WITH HANDS-ON APPLICATION IN THE FIELD. THIS COURSE IS A KEY COMPONENT IN THE PREVENTION/LIFESTYLE INTERVENTION AREA OF EMPHASIS WITHIN THE DEPARTMENT OF EPIDEMIOLOGY, PROVIDING THE PRACTICAL EXPERIENCE NEEDED TO DELIVER THE GROUP LIFESTYLE BALANCE PROGRAM INDEPENDENTLY. STUDENTS ARE REQUIRED TO PROVIDE THEIR OWN TRANSPORTATION TO THE PRACTICUM SITE.

EPIDEM 2143 SOCIAL EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

This course is designed to introduce students to a broad overview of the field of social epidemiology related to the history and development of the field including the theoretical underpinnings, conceptual approaches, current topic areas, and research methods. Social epidemiology reveals how social processes are intrinsically linked to the health of populations and individuals. Social epidemiology takes into account the social, psychological, biological, and medical determinants of disease and health and uses a multidisciplinary approach to analyzing and solving complex contemporary social issues. This course will emphasize the role of social determinants of health in relation to health equity. Teaching methods include lectures, readings, class discussions, and written assignments.

[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2150 EPID CARDIOVASCULAR DISEASES**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

In this course, we hope not only to guide you to a better understanding of cardiovascular disease and its epidemiology, but also to help develop your critical and presentation skills. We will do this by "critiquing" an article most sessions and having a twenty-minute student presentation based on recent statements of the American Heart Association.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2151 PHYSICAL ACTIVITY EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

Physical inactivity is a major risk factor for many chronic diseases as identified in the Surgeon General's Report. This course will provide an up-to-date overview of the area of physical activity epidemiology, from the evidence of the relationships between physical activity and/or sedentary behavior and various chronic diseases, to methodological issues pertaining to the assessment of physical activity and/or sedentary behavior, to lifestyle efforts that includes physical activity in population studies, all of which will have a special emphasis on minority groups.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2152 STDNT WRKSHP CARDIO DS EPID**Credit(s): 01.0**

This course is designed to be a supplement to the standard epidemiology coursework. It is a "hands on" workshop that will provide the opportunity for students to practice many of the concepts that they learn in class in the context of CVD epidemiology. It will also cover some areas which are not covered by the current curriculum, including an introduction to subclinical CVD, professional development, reliability analyses, and formal presentations of analysis results.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2160 EPIDEMIOLOGY INFECTIOUS DISEAS**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

The goal of this course is to provide students with a basic understanding of epidemiologic techniques used to describe patterns of infectious disease transmission and risk for infection. In addition, students will learn about the epidemiology, public health impact, and prevention and control measures for selected infectious diseases. This course includes a series of lectures and practical exercises to introduce students to both the application of epidemiologic skills pertaining to infectious diseases and the public health concepts associated with specific infectious diseases.

[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2161 METHODS INFECTIOUS DISEAS EPID**Credit(s): 01.0****Prerequisite(s): EPIDEM 2110 and EPIDEM 2160**

Covers important topics in infectious diseases epidemiology, including public health surveillance, emerging infectious diseases, the role of infectious diseases in the etiology of chronic diseases, and epidemiologic study designs and laboratory methods used in infectious diseases epidemiology. Course includes lectures, readings, and mid-term (take home) and final examinations.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2163 GLBL EPID OF VACCINES & VCCNTN**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

This course will provide students with knowledge and skills related to the study of vaccines and vaccination programs in the US/EU and in low- and middle income countries. This course will prepare students for entry-level positions in vaccine research or programming for academic, government, or private sector institutions. This course will provide a broad introduction to a wide range of vaccine related topics ranging from biological mechanisms of vaccines to vaccine financing. Within this range of topics, the course will focus heavily on the epidemiological study of vaccine efficacy, safety, effectiveness, and impact. The course is organized around four themes: 1) introduction; 2) vaccines; 3) research and development; and 3) vaccination programs.

[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2166 GLBL CTRL OF AIDS/HIV & TB**Credit(s): 01.0****Prerequisite(s): EPIDEM 2110**

This course will deal with the epidemiology of infection with human immunodeficiency virus (HIV) and Tuberculosis (TB). Current knowledge of the natural history, biology, virology or microbiology, epidemiology and clinical aspects of AIDS as well as treatment and vaccine efforts against HIV and TB will be reviewed. Descriptive, analytic and experimental epidemiologic studies will be critically reviewed to provide a synthesis of our current understanding of the pathogenesis of these infectious diseases.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2170 CHRONIC DISEASE EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

This course will reinforce epidemiological concepts, research skills and public health concepts in the context of the study of chronic diseases and associated risk factors. The course will provide an overview of the prevalence, incidence and risk factors for major chronic diseases that face the U.S. population and the population around the world.

[Effective fall 2017, term 2171, revised course description.]

EPIDEM 2171 CANCER EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

The course reviews basic cancer biology, reviews classic descriptive cancer epidemiology, considers the role for modern biomedical techniques in studies of cancer etiology, and reviews the active hypotheses regarding the etiology of common and uncommon human cancers. Specific topics include biomarkers and intermediate endpoints, tobacco and alcohol associated cancer, viral associated cancer, endocrine related cancer, and nutrition related cancer.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2180 EPIDEMIOLOGICAL METHODS 1**Credit(s): 03.0****Prerequisite(s): EPIDEM 2110 and BIOST 2041**

This course is an introduction to the epidemiology methods used in research. The course is designed for students in the Graduate School of Public Health with a modest statistical and data management background. Students will use SAS, a statistical software package, to analyze data sets. This course will focus on the appropriate application of various study designs and statistical methods for answering research questions, as well as the proper interpretation of results derived from these methods. Students will be expected to participate in class discussions that extend and apply the topics covered in lectures and reading to epidemiology research articles and epidemiology in practice.

[Eff spring 2019, term 2194: created Recitation for EPIDEM 2180 for which enrollment is required.]

[Also revised Reqs: Pre-reqs EPIDEM 2110 and BIOST 2041--removed co-req BIOST 2042.]

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2180 EPIDEMIOLOGICAL METHODS 1 - RECITATION**Credit(s): 00.0**

Classroom instruction usually associated with a lecture which facilitates interaction between the student and the instructor.

[Eff Spring 2019, term 2194, a recitation was added for EPIDEM 2081; be sure to enroll in offered section of recitation.]

EPIDEM 2181 DESIGN/CONDUCT OF CLN TRIALS**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

THE COURSE SURVEYS METHODS IN THE DESIGN AND CONDUCT OF CLINICAL TRIALS. CLINICAL TRIALS REQUIRE SUCCESSFUL COLLABORATION OF CLINICAL, ORGANIZATIONAL AND STATISTICAL SKILLS. THIS COURSE WILL FOCUS ON CLINICAL AND ORGANIZATIONAL ISSUES, SUCH AS PATIENT SELECTION, RECRUITMENT, ENDPOINT DEFINITION AND PROTOCOL DEVELOPMENT. THROUGHOUT THE SEMESTER, STUDENTS DEVELOP A CLINICAL TRIAL PROPOSAL THAT EMPHASIZES THE APPLICATION OF THE CONCEPTS LEARNED. THE COURSE WILL COMPLEMENT COURSES IN BIOSTATISTICS ON THE STATISTICAL ANALYSIS OF CLINICAL TRIALS.

[Title changed effective Fall 2015 Term (2161). Previous title: Design of Clinical Trials]

EPIDEM 2183 RDNG ANLZNG INTRPTG PH MEDL LIT**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and EPIDEM 2180 and (BIOST 2042 or BIOST 2049)**

THIS COURSE PROVIDES THE OPPORTUNITY TO ANALYZE, INTERPRET AND CRITIQUE ORIGINAL RESEARCH ARTICLES. ASSIGNMENTS CONSIST OF ORAL AND WRITTEN REVIEWS OF RECENTLY PUBLISHED PAPERS. A LITERATURE REVIEW PAPER ON A TOPIC CHOSEN BY THE STUDENT IS ALSO REQUIRED. LECTURE TOPICS INCLUDE ASSESSING STUDY VALIDITY, SUBJECT SELECTION, BIAS, CONFOUNDING, LABORATORY METHODS, RESULTS PRESENTATION, QUALITY CONTROL, STATISTICAL ANALYSES, LIBRARY SEARCHES, AND BIBLIOGRAPHIC DATABASE DEVELOPMENT.
(Permission of the instructor required.)

[Eff spring 2019, term 2194, Pre-reqs; EPIDEM 2110 and 2180 and (BIOST 2042 or 2049)--added 2049.]

EPIDEM 2184 SEM EPDMLGC & PBLC HLTH PRSNTN**Credit(s): 01.0**

THIS COURSE PROVIDES AN INTRODUCTION TO EPIDEMIOLOGIC AND PUBLIC HEALTH PRESENTATION FOR SCIENTIFIC AND LAY AUDIENCES. STUDENTS HAVE THE OPPORTUNITY TO PRESENT RESEARCH FROM THEIR COMPREHENSIVE EXAMINATIONS, DISSERTATION DEFENSES, AND SCIENTIFIC MEETINGS. STUDENTS MAY ALSO DEVELOP COMMUNITY HEALTH LECTURES FOR THE GSPH COMMUNITY HEALTH SPEAKERS BUREAU. STUDENTS WILL RECEIVE FEEDBACK FROM PEERS AND FACULTY. PRESENTATION IS NOT REQUIRED. ALL STUDENTS WILL PROVIDE IN-CLASS PRESENTER EVALUATION. UPON REGISTRATION, CONTACT DR. CATHERINE HAGGERTY, 412-624-7377, TO SCHEDULE YOUR PRESENTATION.

EPIDEM 2185 INTRODUCTION TO SAS**Credit(s): 02.0**

This course is an introduction to SAS, a statistical software package commonly used to perform data preparation, statistical analysis, and graphical presentation of results. The course consists of lectures and four lab sessions, where students will practice in a guided manner what was taught during the preceding lectures. The aim of this course is to teach students how to write basic SAS programs to import data, export data, create data sets within SAS, clean data, prepare data sets for analysis and apply statistical, as well as graphical, procedures. Students will also learn to make informed decisions regarding the appropriate SAS commands and options to use for these tasks and will be asked to use SAS for solving a set of simple specific research questions. Upon completion of this course students will feel comfortable using SAS as a tool to conduct research and know how to subsequently further develop their own SAS programming skills.

[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2187 EPIDEMIOLOGICAL METHODS 2**Credit(s): 03.0****Prerequisite(s): EPIDEM 2180 and BIOST 2041 and BIOST 2042**

This course is an introduction to advanced epidemiology and statistical methods used in clinical and public health research. The focus of the course is on the appropriate selection and application of statistical methods for answering research questions as well as the proper interpretation of results derived from these methods. Students will learn about the analysis of categorical data, survival data, and longitudinal data. The sample size and power issues involved when using these methods will also be covered. Students will be introduced to the causal inference framework, including the use of propensity scores and inverse probability weighting, and dynamic modeling. Students will gain experience with the statistical methods studied in this course by analyzing data sets with SAS.

[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2200 EPIDEMIOLOGY AND HEALTH SERVICES**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

THE COURSE SURVEYS EPIDEMIOLOGIC METHODS AND APPROACHES, AS APPLIED TO THE STUDY OF HEALTH SERVICES AND MEDICAL TECHNOLOGIES. THE COURSE PLACES PARTICULAR EMPHASIS ON MEASUREMENT AND DESIGN ISSUES WHICH IMPACT ON THE VALIDITY OF HEALTH SERVICES RESEARCH STUDIES. THE COURSE DEVELOPS A SYSTEMATIC APPROACH TO THE ASSESSMENT OF MEDICAL TECHNOLOGIES AND TO THE APPLICATION OF EPIDEMIOLOGIC AND OTHER SCIENTIFIC INFORMATION TO THE FORMULATION OF HEALTH POLICY.

EPIDEM 2210 SPECIAL STUDIES - ESSAY**Credit(s): 01.0 to 15.0**

RESEARCH CREDITS FOR MASTER'S ESSAY. ALSO APPLIES TO CREDITS FOR DOCTORAL RESEARCH PRIOR TO PASSING THE DOCTORAL COMPREHENSIVE EXAM.

EPIDEM 2213 INDEPENDENT STUDY**Credit(s): 01.0 to 12.0**

PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE SPECIAL STUDY OR RESEARCH WHICH DOES NOT APPLY TO THE MASTER'S ESSAY OR DOCTORAL DISSERTATION. THIS STUDY MUST BE DONE WITH PERMISSION OF THE SPECIFIC FACULTY MEMBER WHO WILL SUPERVISE THE WORK.

EPIDEM 2214 PUBLIC HEALTH INTERNSHIP**Credit(s): 01.0 to 04.0****Prerequisite(s): EPIDEM 2110 and BIOST 2041**

THIS INTERNSHIP PROVIDES AN OPPORTUNITY TO GAIN VALUABLE KNOWLEDGE AND EXPERIENCE THAT WOULD NOT NORMALLY BE AVAILABLE THROUGH COURSEWORK. PLACEMENTS MAY BE OUTSIDE OF THE UNIVERSITY OF PITTSBURGH (E.G., IN HEALTH SERVICES ORGANIZATIONS, CLINICS, HEALTH DEPARTMENTS, COMMUNITY-BASED ORGANIZATIONS WORKING WITH "AT-RISK" POPULATIONS) OR WITHIN THE UNIVERSITY. EACH SPECIFIC PLACEMENT IS TO BE AGREED UPON BY EACH STUDENT AND HIS/HER FACULTY ADVISOR, BASED ON THE STRENGTHS, NEEDS, AND CAREER/ACADEMIC GOALS OF STUDENTS. INTERNSHIP SITES SHOULD PROVIDE A MINIMUM OF 200 HOURS OF PUBLIC HEALTH ORIENTED WORK. STUDENTS ARE ENCOURAGED TO PURSUE PLACEMENTS BEYOND THE ONLINE LIST AND TO THINK CREATIVELY ABOUT THE DOMESTIC AND INTERNATIONAL POSSIBILITIES. STUDENTS ARE ENCOURAGED, BUT NOT REQUIRED, TO DEVELOP THEIR MASTER'S ESSAY BASED ON THEIR INTERNSHIP EXPERIENCE.

[Removed prereq PUBHLT 2014--no longer required for MPH as of fall 2016; effect PS 1/1/2018.]

EPIDEM 2215 TEACHING PRACTICUM**Credit(s): 02.0**

THIS COURSE IS DESIGNED TO PROVIDE DOCTORAL STUDENTS WITH OPPORTUNITIES TO DEVELOP PRACTICAL SKILLS IN TEACHING AND MENTORING STUDENTS TAKING EPIDEMIOLOGY COURSES. AS TEACHING ASSISTANTS, STUDENTS MAY LECTURE, GRADE HOMEWORK AND EXAMS, LEAD REVIEW SESSIONS, HOLD OFFICE HOURS OR MAINTAIN COURSE BLACKBOARD SITES. THEY MAY ALSO HELP PLAN, UPDATE OR EXPAND COURSE SYLLABI OR TEACHING MATERIALS. COURSE GOALS INCLUDE IMPROVEMENT IN ORAL AND WRITTEN COMMUNICATION SKILLS AND EXPOSURE TO THE PROCESS OF PLANNING AND IMPLEMENTING A COURSE.

EPIDEM 2220 APLD SPATIAL/COMMUNITY EPIDEM**Credit(s): 03.0****Prerequisite(s): EPIDEM 2110 and (BIOST 2011 or BIOST 2041)**

The purpose of this course is to provide a conceptual understanding of the field of environmental epidemiology and to provide the spatial statistical tools for geospatial analysis. Topics will include: study design and approaches in environmental epidemiology investigations, statistical issues in the analysis and interpretation of such studies, and "Hands on" training in software and tools for analysis of spatio-temporal variations in health and disease with respect to demographic, environmental, behavioral, socioeconomic, genetic, and infectious risk factors. The course will provide an overview of health effects of environmental exposures. This includes the investigation of cancer and other disease clusters, health effects of water and air pollution, radiation threats and exposures and proximity to toxic waste sites. Basic tutorials in Arc GIS (10.3) and Geoda freeware will be provided. [Effective spring 2017, term 2174, revised course description & removed the prereq BCHS 3015.]

EPIDEM 2221 GEOSPATL MAP&SPATL ANALYS EPID**Credit(s): 02.0****Prerequisite(s): BIOST 2041 and EPIDEM 2110**

The purpose of this course is to provide a conceptual understanding of the field of environmental epidemiology and to provide the spatial statistical tools for geospatial analysis. The course will provide "hands on" training in software and tools for analysis of spatio-temporal variations in health and disease with respect to demographic, environmental, behavioral, socioeconomic, genetic, and infectious risk factors. Basic tutorials in Arc GIS (10.3) and Geoda freeware will be provided. There will be 7 assignments over the term and 1 final project. The course is meant for all interested master's and doctoral students who have taken an introduction to Biostatistics and Introduction to Epidemiology.

[Eff spring 2019, term 2194, new course.]

EPIDEM 2230 ADV TOPICS IN EPDMLGCL METHODS**Credit(s): 02.0****Prerequisite(s): EPIDEM 2180**

This course covers methods for obtaining and presenting data from existing sources. Laboratory sections will cover data management and statistical programming in the context of large public-use datasets and clinical databases. Students will be introduced to topics such as analysis of imaging data, longitudinal clinical registries, and multi-level modeling. Students will work in groups on a secondary analysis research project that will be presented in seminar format.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2250 SEMINAR IN EPIDEMIOLOGY**Credit(s): 01.0**

AREAS OF CURRENT EPIDEMIOLOGY INTEREST IN RESEARCH ARE PRESENTED. OFTEN A GENERAL THEME SUCH AS EPIDEMIOLOGY OF AGING, WOMEN'S HEALTH ISSUES, DISORDERS OF IMMUNITY, IS CHOSEN. ALL DEPARTMENTAL MAJORS ARE EXPECTED TO TAKE THIS COURSE.

EPIDEM 2260 EPIDEMIOLOGICAL BASIS DISEASE CONTROL Credit(s): 02.0

Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041

The purpose of this course is to gain understanding of the principles underlying disease prevention and the ability to apply these principles to the design, implementation and evaluation of prevention interventions for chronic and infectious diseases. The first part of the course will be devoted to learning the principles of surveillance and risk assessment development, the second part to application of observational data and efficacy and effectiveness studies to populations. The third part will focus on the evaluation of prevention strategies for chronic and infectious disease. Throughout the course, there will be an emphasis on the interaction of biologic and clinical information with epidemiologic data and analysis.
[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2261 APPLIED EPIDEMIOLOGY FIELD INVESTMENT TOPICS Credit(s): 02.0

Prerequisite(s): EPIDEM 2110 and EPIDEM 2180

This course introduces students to the methods of applied field epidemiology used in applied epidemiology settings such as federal, state, local and tribal government agencies. Upon completion of this course, students will be prepared to conduct urgent public health investigations and write reports for public consumption. This course will also introduce students to applied epidemiology topic areas and their respective analytic methods.

[New course for fall 2018, term 2191. For EPIDEM MPH, MS students.]

EPIDEM 2271 ADVANCED TOPICS IN CANCER EPIDEMIOLOGY - 1 Credit(s): 02.0

Prerequisite(s): EPIDEM 2171 and EPIDEM 2180

THE OBJECTIVES OF THIS COURSE ARE TO FAMILIARIZE STUDENTS WITH CENTRAL TOPICS IN CANCER EPIDEMIOLOGY AND PREVENTION, INCLUDING CANCER BIOLOGY, RESEARCH METHODS, AND APPLIED CANCER CONTROL; PROVIDE STUDENTS WITH AN OPPORTUNITY TO DEVELOP AN IN-DEPTH UNDERSTANDING OF AN ETIOLOGY-SPECIFIC CANCER PROCESS; PROVIDES STUDENTS WITH HANDS-ON EXPERIENCE IN CONDUCTING CANCER EPIDEMIOLOGY AND PREVENTION RESEARCH; FAMILIARIZE STUDENTS WITH VARIOUS FACETS OF FUNDING, INCLUDING GRANT WRITING AND REVIEWING. NUTRITIONAL ETIOLOGY IS COVERED.

EPIDEM 2295 BIOCHEMICAL EPIDEMIOLOGICAL ASPECTS OF NUTRITION Credit(s): 02.0

STUDENTS AND TEACHERS SELECT PUBLISHED MANUSCRIPTS TO EVALUATE AS A GROUP. TOPICS HAVE INCLUDED, BUT HAVE NOT BEEN LIMITED TO, ADIPOKINES, ANTIOXIDANTS, ARGININE AND NITRIC OXIDE, CYTOKINES, FRUCTOSE, METABOLISM, HORMONES, ISOFLAVONES, LIPOPROTEIN METABOLISM, POLYUNSATURATED FATTY ACIDS AND VITAMINS. BASIC BIOCHEMICAL CHARACTERISTICS OF EACH SPECIES ARE REVIEWED, NUTRITIONAL ASPECTS DISCUSSED AND POPULATION IMPLICATIONS ASSESSED WITH RESPECT TO CARDIOVASCULAR DISEASE, DIABETES, HIV INFECTION, AND OBESITY.

EPIDEM 2310 PSYCHIATRIC EPIDEMIOLOGY Credit(s): 02.0

Prerequisite(s): EPIDEM 2110

This course will review the classification systems and methodological issues in psychiatric epidemiology, the research methodologies used, and the distribution of specific psychiatric disorders.
[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2340 PEDIATRIC EPIDEMIOLOGY Credit(s): 02.0

Prerequisite(s): EPIDEM 2110

This course will focus on epidemiologic approaches to the study of disorders that occur during childhood and will provide an overview of common physical and psychiatric childhood disorders. In addition to describing the epidemiology of the disorders, consideration will be given to the risk factors, research methods, and methodological issues in pediatric epidemiology.
[Effective fall 2017, term 2181, revised course description.]

EPIDEM 2380 RESIDENT SEMINAR IN ALCOHOL AND PSYCHIATRIC EPIDEMIOLOGY Credit(s): 01.0

THIS SEMINAR FOCUSES ON AREAS OF CURRENT RESEARCH IN PSYCHIATRIC EPIDEMIOLOGY AND ALCOHOL EPIDEMIOLOGY. FELLOWS IN THE PSYCHIATRIC EPIDEMIOLOGY TRAINING PROGRAM (DIRECTOR: GALE RICHARDSON, PH.D) AND ALCOHOL RESEARCH TRAINING PROGRAM (DIRECTOR: MARIE CORNELIUS, PH.D) ARE REQUIRED TO TAKE THIS COURSE.

EPIDEM 2400 PSYCHOSOCIAL FACTORS IN DISEASE Credit(s): 02.0

Prerequisite(s): EPIDEM 2110

This course focuses on psychosocial and behavioral factors that influence the development and course of physical disease. Some of these factors can be modified, so identification can lead to improved health. This course is directed towards students who want to learn about the most common psychosocial factors implicated in disease, how they are measured, psychometric issues, and how to incorporate them into studies of disease and physical health. Students will also learn how to analyze and evaluate the strengths and limitations of studies that include psychosocial factors.
[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2525 BIOCH, DIET& PHYSIO MTH EPID LAB**Credit(s): 02.0**

STUDENTS ARE INTRODUCED TO ANALYTICAL METHODS THAT SUPPORT EXERCISE AND NUTRITIONAL INITIATIVES. INITIALLY STUDENTS WILL ATTEND A LABORATORY SAFETY COURSE. BIOCHEMICAL ASSAYS WILL INCLUDE MEASUREMENTS OF ANTIOXIDANTS, FATTY ACIDS, HORMONES AND VITAMINS USING ELISA, GC-MS, HPLC, RIA, SPECTROPHOTOMETRIC AND TURBIDIMETRIC METHODS. SUB-CLINICAL TESTS WILL INVOLVE EVALUATION OF INTIMA-MEDIA THICKNESS AND PULSE-WAVE VELOCITY. DIETARY PROTOCOLS WILL ENCOMPASS BEHAVIORAL AND SURGICAL APPROACHES TO WEIGHT LOSS AND THE MAINTENANCE AND INTERPRETATION OF FOOD RECORDS. PHYSIOLOGICAL TECHNIQUES WILL TARGET EXERCISE INTERVENTIONS, THE DETERMINATION OF ENERGY EXPENDITURE, AND APPRAISALS OF FATIGUE, POWER AND STRENGTH. ANTHROPOMETRIC METHODS WILL INVOLVE BODPOD, BIOELECTRIC IMPEDANCE, DEXA, SKINFOLDS AND UNDERWATER WEIGHING. IMAGING STUDIES WILL EVALUATE BRAIN IMAGES IN RELATION TO DEMENTIA. RESULTS WILL BE DISCUSSED WITH RESPECT TO AGING, CVD, DIABETES, OBESITY AND OSTEOPOROSIS.

[Credit decrease, course description, and title changed effective Fall 2015 (2161). Previous title: Nutrition Assessment Laboratory]

EPIDEM 2560 NUTRITIONAL EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

THIS INTERACTIVE COURSE, INVOLVING LECTURES AND IN-CLASS LEARNING ACTIVITIES, PROVIDES STUDENTS WITH THE SKILLS AND KNOWLEDGE NECESSARY TO UNDERSTAND AND CRITICALLY EVALUATE THE NUTRITIONAL EPIDEMIOLOGY LITERATURE AND DESIGN STUDIES IN NUTRITIONAL EPIDEMIOLOGY. THE COURSE REVIEWS CURRENT METHODS OF ASSESSING NUTRITIONAL STATUS, WITH A FOCUS ON DIETARY ASSESSMENT, AS WELL AS BIOLOGICAL MARKERS, SUPPLEMENT USE, ANTHROPOMETRY, AND OBESITY. THE COURSE ADDRESSES THE APPLICATION OF EPIDEMIOLOGIC METHODS TO STUDIES OF NUTRITION AND DISEASE, HIGHLIGHTING METHODOLOGICAL ISSUES AND INTERPRETATION OF FINDINGS.

EPIDEM 2600 INTRO TO MOLECULAR EPIDEMIOLOGY**Credit(s): 03.0****Prerequisite(s): EPIDEM 2110**

To provide students with an introduction to the key concepts in genetics and molecular biology, and the diverse ways they are used to solve practical problems in the epidemiology of disease and risk identification. This course will deliver the working knowledge of genetics and molecular biology necessary for critical assessment of molecular epidemiological studies. It will provide suitable preparation for more advanced and specialized study in molecular epidemiology. The student will develop familiarity with the ways molecular epidemiology is used to determine susceptibility to disease and response to interventions. The main topics covered are: genetic susceptibility, the use of biomarkers, and molecular association studies.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2601 MOLECLR EPIDEM TOOLS & TECHNQS**Credit(s): 03.0****Prerequisite(s): EPIDEM 2600 and EPIDEM 2180 and EPIDEM 2185**

There is a steady stream of new methods and technologies entering the biomedical sciences that can be used to generate high-quality, quantitative data on the molecular and biochemical aspects of health and disease. There is tremendous value in applying these methods in epidemiologic studies to interrogate the molecular underpinnings of associations within populations, generate hypotheses on the mechanisms involved, to monitor the effects of interventions and to increase confidence in causal inferences. This course will be an opportunity for students to be exposed to methods for measuring the biologic processes that are relevant to DNA variation in populations, and to exposure effects that impact RNA and protein (and other molecule) expression. This course will go beyond the standard level of awareness of how to receive and analyze data from a laboratory. We will engage students in rigorous thought on how to pose questions on the underlying biology, conduct biomarker selection, design assays, and analyze and interpret data. We will spend ~50% of the time exposing students to hands-on experimentation at the laboratory bench. While, we will discuss 'omics' and high-dimensional methods in lectures, the hands-on work will be limited to single molecule analyses.

[Effective fall 2017, term 2181, course was revised: title, component type, lab added, credit increase, enrollment requirements.]

When enrolling in EPIDEM 2601 you will also enroll in the required Lab.

EPIDEM 2601 LAB - MOLECLR EPIDEM TOOLS & TECHNQS - LAB**Credit(s): 00.0****Prerequisite(s): EPIDEM 2600 and EPIDEM 2180 and EPIDEM 2185**

Those methods in which knowledge is acquired and/or applied in a learning activity that is a controlled experiment or an artificial construct of reality; for zero credit.

[Effective fall 2017, term 2181, course was revised: title, component type, lab added, credit increase, enrollment requirements.] When enrolling in EPIDEM 2601 you will also enroll in the LAB offering.

EPIDEM 2620 ADV TOPCS IN MOLEC EPIDEM**Credit(s): 01.0****Prerequisite(s): BIOST 2041 and BIOST 2042 and EPIDEM 2110 and EPIDEM 2180**

This course will advance the learning of students interested in molecular epidemiology by teaching practical aspects of measuring, quantifying and modeling levels of RNA and protein in human biological specimens (blood, tissue, etc). Some topics will include: selecting and validating biomarkers of RNA and protein for application in epidemiologic study design, candidate molecule vs. omics (high-dimensional) approaches, increasing support for associations through experimentation using human in vitro models, basic know-how in the design and execution of bioassays, and statistical issues in biomarker data analysis. Students will observe the work of a molecular epidemiology laboratory.

[New course for fall 2018, term 2191.]

EPIDEM 2640 INJURY PREVENTION AND CONTROL**Credit(s): 02.0**

Injuries and violence are leading causes of morbidity and mortality in the United States and globally. This course is directed towards individuals with an interest in learning more about this burden and the current approaches being taken to reduce it. It provides an example of how the disciplines of public health can be used to study, understand, and address a significant public health issue. The course will provide an overview of the basic principles and practice underlying injury prevention and control. Lectures will identify the burden underlying major categories of unintentional and intentional injuries and review the multi-disciplinary approaches being used to reduce injuries and violence, in general, and with respect to specific injury and violence issues. In class discussion and problems will be utilized to enhance understanding of approaches to prevention.
[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2670 INJURY EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

This course is designed to provide an introduction to and understanding of the epidemiology of injuries. The class will review the fundamentals underlying injury data and the methods used in injury research studies. Research in major injury topics; motor vehicle crash, violence, sports injury, and other topics will be discussed in depth. Through instruction and practice with data, participants will become familiar with the importance of injury as a public health problem, the strengths and weaknesses of injury data sources and injury surveillance systems, and injury research methods.
[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2710 EPIDEMIOLOGY OF WOMEN'S HEALTH**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and (EPIDEM 2712 or PUBHLT 2015)**

This course presents an introduction to the influences of health and disease among women. It reviews epidemiologic approaches to understanding the basic etiology and primary prevention of diseases unique to or more common among women. There is a strong focus on life course approaches to understanding health and disease, including methods, study design and analytics appropriate for studies across the lifespan, from in utero to old age. Course includes lectures, seminars, and discussion.
[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2720 REPRODUCTIVE EPIDEMIOLOGY**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and BIOST 2011 or BIOST 2041**

THIS COURSE PRESENTS MALE AND FEMALE REPRODUCTIVE ANATOMY AND PHYSIOLOGY, AND FETAL DEVELOPMENT, AS EACH IS SUSCEPTIBLE TO ADVERSE ENVIRONMENTAL CONSEQUENCES. IT DISCUSSES IN DETAIL A CRITICAL APPROACH TO EPIDEMIOLOGIC INVESTIGATION OF POTENTIAL REPRODUCTIVE TOXICANTS. CASE STUDIES OF SPECIFIC TOXICANTS ARE DISCUSSED.

EPIDEM 2721 RSRCH SEM REPRDCTV EPIDEM**Credit(s): 01.0**

THIS SEMINAR FOCUSES ON AREAS OF CURRENT RESEARCH IN REPRODUCTIVE, PERINATAL, AND PEDIATRIC EPIDEMIOLOGY. FELLOWS IN THE REPRODUCTIVE, PERINATAL, AND PEDIATRIC TRAINING PROGRAM ARE REQUIRED TO TAKE THIS COURSE, ALTHOUGH IT IS OPEN TO ANY INTERESTED STUDENTS.

EPIDEM 2725 REPRDCTV DVLP MODL ORGNSM HUMN**Credit(s): 02.0****Prerequisite(s): PUBHLT 2015 or EPIDEM 2004**

THIS COURSE FOCUSES ON THE MOLECULAR ASPECTS OF THE TRANSITION FROM GAMETE TO A REPRODUCTIVE ORGANISM. THE COURSE PROGRESSES THROUGH THE BUILDING OF GERM CELLS, FERTILIZATION AND STEM CELL PARTICIPATION TO SEX DETERMINATION, GONAD MORPHOGENESIS, PUBERTY, MENOPAUSE AND PREGNANCY. THIS COURSE HIGHLIGHTS BOTH HUMAN AND MODEL ORGANISMS TO BRING TOGETHER DIVERSE ASPECTS OF THE CELL AND DEVELOPMENTAL BIOLOGY OF REPRODUCTIVE TISSUES AND THEIR IMPACT ON DISEASE PATHOLOGY.

EPIDEM 2850 PHARMACOEPIDEMOLOGY**Credit(s): 02.0**

The purpose of this course is to provide an introduction to the field of pharmacoepidemiology, which uses epidemiologic methods to examine the benefits or risk of medications in the population. This course will: explain what pharmacoepidemiology is and what types of study designs are used within this methodology, discuss the roles that pharmacoepidemiology studies have regarding drug use and health outcomes; describe the threats to validity that are possible in pharmacoepidemiologic studies and the variety of solutions available to avert or control for these threats. This information will prepare students to both interpret and critique, in writing and through presentations, studies from the pharmacoepidemiology literature.

[Effective spring 2017, term 2174, revised course description; eff term 2184 title change.]

EPIDEM 2900 ADVANCED EPIDEMIOLOGY OF AGING**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and EPIDEM 2981 and BIOST 2011 or BIOST 2041**

This is an advanced course targeted towards Epidemiology PhD students. The purpose of this course is to understand in depth the current epidemiologic research findings regarding common health conditions and geriatric syndromes in the aging population. The course will focus on the common age related processes and chronic health conditions that contribute to disability and frailty and on enhancing successful aging and preventing disability. Advanced research methods will be reviewed as part of each class.
[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2920 GRANT WRITING**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110 and EPIDEM 2180 and EPIDEM 2185 and EPIDEM 2183**

During this course, students will develop a grant proposal on a research topic of their choice. The proposal will be written in the format of the National Institutes of Health (NIH) National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31) grant application. The application will include specific aims and a research plan that includes significance, innovation, and approach. The proposal will also include a research training plan as required by the NIH. Students will also participate in a mock study section (grant review). Students are encouraged to use this opportunity to develop an application for submission to the NIH for support of their dissertation work.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2950 EPIDEMIOLOGY OF AGING WORKSHOP**Credit(s): 01.0**

The workshops are designed as practical professional skill development to supplement to the additional coursework for the Epidemiology of Aging trainees and students. The workshop will include sessions on: presentations by the students from their research, journal article reviews, longitudinal analyses techniques, and professional skills sessions. The presentation sessions provide an opportunity for students to present and refine their interim research and data analyses by obtaining feedback from peers, faculty and mentors on their work in progress. Journal article review sessions will provide an opportunity for students to identify and share current articles relevant to the epidemiology of aging and develop proficiency in the critical review of scientific literature. Emphasis will be placed on understanding emerging and novel methods in the field, particularly longitudinal statistical analyses techniques (e.g. handling missing data longitudinally; interpreting changes in slopes over time; joint modeling). A faculty member will help student leaders select articles (distributed before the meeting) and will work with students to encourage questions and discussion among the group. Professional skill sessions will vary by semester and cover topics such as post-doctoral career development, grant and professional medical writing, and longitudinal data analysis.

[Effective spring 2017, term 2174, revised course description.]

EPIDEM 2980 BIOLOGY & PHYSIOLOGY OF AGING**Credit(s): 01.0****Prerequisite(s): EPIDEM 2004 or EPIDEM 2712 or equivalent coursework**

This course introduces students to the aging process as a foundation for research in the epidemiology of aging. Some topics for the course will include: Overview of aging physiology, molecular and biological processes of aging, model systems of aging and study designs that are currently relevant to human population research.

[Effective summer 2017, term 2177, revised course description.]

EPIDEM 2981 EPIDEMIOLOGY OF AGING-METHODS**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

This course will introduce the methodological aspects of epidemiologic research in the field of aging and to critically evaluate research in older adults. The course will focus on: demography, study design, sampling, recruitment, retention, measurement of key variables and special populations. Students will write a critical review of a published article and comment on proposed future directions for epidemiologic studies addressing these questions in older populations. Throughout the course, a Problem Solving Learning Method will be applied by prompting the students to solve pragmatic issues. Examples include: How to measure a specific outcome? What type of chronic health conditions may be related to the research question? How to operationalize specific measures of interest (e.g.: how to create a composite score for co-morbidity assessment?). The course has been formulated to provide the students with the "building blocks" of the epidemiological study of aging. By the end of the course, the students will be able to critically evaluate various components of a study to further address the research questions in aging populations.

[Effective fall 2017, term 2181, revised course description.]

EPIDEM 3100 RESEARCH AND DISSERTATION PHD**Credit(s): 01.0 to 15.0**

RESEARCH AND DISSERTATION FOR THE DOCTORAL DEGREE.

FTDR 3999 FULL-TIME DISSERTATION RESEARCH**Credit(s): 00.0**

DOCTORAL CANDIDATES WHO HAVE COMPLETED ALL CREDIT REQUIREMENTS FOR THE DEGREE, INCLUDING ANY MINIMUM DISSERTATION REQUIREMENTS, AND ARE WORKING FULL-TIME ON THEIR DISSERTATIONS MAY REGISTER FOR THIS COURSE. WHILE THE COURSE CARRIES NO CREDITS AND NO GRADE, STUDENTS WHO ENROLL IN "FULL-TIME DISSERTATION STUDY" ARE CONSIDERED BY THE UNIVERSITY TO HAVE FULL-TIME REGISTRATION STATUS.

HPM 2001 HLTH POLC & MGT IN PUBLIC HLTH**Credit(s): 03.0**

THE CORE COURSE IS DESIGNED TO GIVE STUDENTS AN OVERVIEW OF THE DISCIPLINES AND COMPETENCIES ASSOCIATED WITH THE FIELD OF HEALTH POLICY AND HEALTH CARE MANAGEMENT. UNDERSTANDING THE ROLE OF LEADERSHIP IN A PUBLIC HEALTH ENVIRONMENT IS A UNIFYING THEME IN THIS COURSE.

HPM 2003 POLC DEC MKG PH EMRGY/BIOTERSM Credit(s): 03.0

THIS THREE-CREDIT GRADUATE COURSE FOCUSES ON PUBLIC HEALTH EMERGENCIES AND BIOTERRORISM AT THE PHASES OF PREPAREDNESS, MITIGATION, AND RESPONSE. THE COURSE EMPHASIZES NOT ONLY BIOLOGICAL AGENTS BUT ALSO ALL HAZARDS WITH PUBLIC HEALTH CONSEQUENCES. IT ADDRESSES THE INTERFACES OF POLICIES AND LAWS IN THE CONTEXT OF FEDERALISM, WHICH REQUIRES INTERACTION AMONG THE FEDERAL, STATE, AND LOCAL LEVELS OF GOVERNMENT. THE COURSE CONSIDERS THE CRITICAL ROLE OF PRIVATE-SECTOR HEALTH CARE PROVIDERS IN ADDITION TO GOVERNMENTAL DECISION MAKERS. STUDENTS EXPLORE PAST EMERGENCIES THROUGH HISTORY AND CASE STUDIES, CONDUCT DIRECTED RESEARCH ON A CHOSEN POLICY ISSUE, AND EXPERIENCE DECISION-MAKING IN THE CONTEXT OF A SIMULATED EMERGENCY BY PLAYING A CHOSEN AND PREVIOUSLY RESEARCHED OFFICIAL ROLE. TEACHING METHODS INCLUDE LECTURES, CASE STUDIES, POLICY RESEARCH AND WRITING, INTERDISCIPLINARY CLASSROOM DISCUSSION, AND SIMULATED DECISION-MAKING.

(The prerequisite is to be currently enrolled in a graduate or professional degree program, but this may be waived by the Course Director.)

HPM 2004 COMP GLBL HLTH SYSTEMS POLICY Credit(s): 02.0

This two credit course will focus on an understanding of the structures and processes of the health system and the health policies at its foundation from the perspective of "true access" as defined by application of the of the eight-factor model of Lovett-Scott and Prather. The complexity of health systems will be manifest by comparative studies of national health systems ranging from low-to high income nations. A secondary emphasis will be placed on a retrospective analysis of the UN Millennium Development Goals and a prospective view of the UN's post-2015 Development Goals as an aspirational framework for advocating community development and sustainability with implications for global health policy.

[New course for spring 2016, term 2164.]

HPM 2005 CURRENT ISSUES IN HEALTH LAW Credit(s): 01.0

Current Issues in Health Law is an interdisciplinary course for students of public health and law. In this course, students will be introduced to cutting-edge issues in public health law, health law and policy. The course focuses on developments in health care and public health, particularly as they affect medically underserved populations, with implications for lawyers and public health practitioners as policy makers. It will also introduce students to the variety of settings in which lawyers and public health practitioners are involved in law. Classes will be taught by leading experts in the field as well as student led discussions.

[New course for fall 2016, term 2171.]

HPM 2010 ORGANIZATION STUDIES: THEORY AND APPLICATIONS TO HEALTH CARE SYSTEMS Credit(s): 03.0

FOCUS ON THE UNDERSTANDING AND APPLICATION OF FUNDAMENTAL CONCEPTS, PRINCIPLES AND MODELS ASSOCIATED WITH ORGANIZATION THEORY WITHIN HEALTHCARE, REHABILITATION, AND LONG-TERM CARE. CONTENT WILL ENCOMPASS THE TRADITIONAL FOCI OF ORGANIZATION THEORY, E.G., STRUCTURE AND FUNCTIONS, AUTHORITY RELATIONSHIPS, COORDINATION AND CONTROL PROCESSES, AS WELL AS CONSTRUCTS ASSOCIATED WITH RELATED DISCIPLINES OF ORGANIZATION BEHAVIOR E.G. MOTIVATION THEORY, LEADERSHIP, ETC. EMPAHSIS ON REALWORLD APPLICATIONS. ORGANIZATION DESIGN IS DISCUSSED IN CONTEMPORARY ORGANIZATION STRUCTURES AND PROCESSES.

HPM 2012 FINCL MGT FDS HEALTH CARE & PH Credit(s): 03.0

INTRODUCTION TO SELECTED FINANCE AND ACCOUNTING TOPICS OF HEALTH CARE PROFESSIONAL, SUPERVISOR & DEPARTMENT HEAD. NO PREVIOUS KNOWLEDGE OF ACCOUNTING OR FINANCIAL MANAGEMENT REQUIRED. FIRST HALF EMPHASIS ON BASIC FINANCIAL ACCOUNTING CONCEPTS TO PROVIDE ORGANIZATION-LEVEL UNDERSTANDING LANGUAGE, CONCEPTS, PROCESSES & FUNCTIONS OF FINANCIAL MANAGEMENT. SECOND HALF EMPHASIZES MANAGERIAL ACCOUNTING PRINCIPLES AND TECHNIQUES INCLUDING COST ACCOUNTING AND BUDGETING. FOCUS SHIFTS TO DEPARTMENTAL LEVEL FINANCIAL MANAGEMENT AND ROLE OF SUPERVISOR PROCESS INCLUDING BUDGET DEVELOPMENT AND CONTROL.

HPM 2014 APPLCS/ISS FINCL MGT HC INSTN Credit(s): 03.0

THIS CURRICULUM IS DESIGNED TO EXPAND ON THE CONCEPTS PRESENTED IN THE FINANCIAL MANAGEMENT FOUNDATIONS FOR HEALTH CARE AND PUBLIC HEALTH COURSE (HPM 2012). THE FOCUS OF THE INSTRUCTION WILL BE LESS BOOK-LEARNING AND, INSTEAD, PRIMARILY BE COMPRISED OF REAL-LIFE, PRACTICAL SITUATIONS FACED IN TODAY'S HEALTHCARE INDUSTRY. TEACHINGS WILL BE A MIX OF GUEST SPEAKERS FROM THE LOCAL AREA'S LEADERS AND THE INSTRUCTOR'S EXPERIENCES. THE FIRST PART OF THE SEMESTER WILL REVOLVE AROUND UNDERSTANDING WHAT'S BEHIND THE DATA CONTAINED IN AN ORGANIZATION'S FINANCIAL STATEMENTS. THE COURSE WILL ALSO COVER ALTERNATIVE REVENUE OPPORTUNITIES, SUCH AS PHILANTHROPIC INITIATIVES AND INVESTMENT EARNINGS. ONCE THESE CONCEPTS HAVE BEEN PRESENTED, THE INSTRUCTION WILL CHANGE ITS FOCUS TO MANAGING WITHIN A HEALTHCARE ORGANIZATION CONCENTRATING ON BUDGETING, DETERMINING HOW/WHAT PROGRAMS TO INVEST IN OR IMPLEMENT, AND BALANCE SHEET MANAGEMENT.

HPM 2017	QUANT MTH-DEC TECH/OPRTNS MGT HC	Credit(s): 03.0
<p>THIS COURSE GIVES AN INTRODUCTION TO DECISION TECHNOLOGIES AND TO THE ART OF SUCCESSFULLY USING THEM IN PRACTICE. PART I: FOCUS ON METHODOLOGIES FOR OPTIMIZING AND FOR PREDICTING THE CONSEQUENCES OF DECISIONS. HEALTH CARE APPLICATIONS ARE CONSIDERED: RESOURCE ALLOCATION, SCHEDULING, PROJECT MANAGEMENT. PART II: FOCUS ON OPERATIONS MANAGEMENT ISSUES IN HEALTH CARE. TOPICS INCLUDE: FORECASTING, INVENTORY MGT AND QUALITY CONTROL.</p>		
HPM 2025	HPM PRACTICUM	Credit(s): 01.0 to 03.0
<p>THE STUDENT MAY REGISTER FOR THE HPM PRACTICUM UPON APPROVAL OF THE FACULTY OF THE DEPARTMENT OF HEALTH POLICY AND MANAGEMENT. THE HPM PRACTICUM IS DESIGNED TO PROVIDE THE STUDENT ALREADY EMPLOYED IN A HEALTHCARE ORGANIZATION WITH EXPOSURE TO EXECUTIVE MANAGEMENT, LEADERSHIP, AND POLICY-MAKING PROCESSES AND ACTIVITIES. TYPICALLY, THE STUDENT WILL COMPLETE THE PRACTICUM AT THEIR EMPLOYMENT ORGANIZATION.</p>		
HPM 2028	MICROECONOMICS APPLD TO HEALTH	Credit(s): 03.0
<p>THIS COURSE IS AN INTRODUCTION TO MICROECONOMICS. THE STUDY OF RESOURCE ALLOCATION WITH PARTICULAR EMPHASIS ON THE ROLE OF MARKETS. THE COURSE FOCUSES ON THE COMPETITIVE MODEL. EXAMPLES OF THE USE OF ECONOMIC CONCEPTS ARE DRAWN PRIMARILY FROM THE HEALTH AND MEDICAL CARE DELIVERY SYSTEMS.</p>		
HPM 2029	HEALTH MGT INFORMATION SYSTEMS	Credit(s): 02.0
<p>THE PURPOSE OF THIS COURSE IS TO PROVIDE FUTURE HEALTH CARE MANAGERS AND POLICY-MAKERS A CONCEPTUAL FRAMEWORK FOR UNDERSTANDING AND MANAGING AN INTEGRATED HEALTH MANAGEMENT INFORMATION SYSTEM (HMIS). PRIMARY ATTENTION WILL BE GIVEN TO THE OVERALL ARCHITECTURE OF HMIS AND ISSUES RELATED TO HEALTH INFORMATION MANAGEMENT. THE COURSE FOCUSES ON THE HEALTH CARE MANAGER'S ROLE IN THE DESIGN, IMPLEMENTATION AND CONTROL OF AN EFFECTIVE HMIS. INSTRUCTIONAL METHODS INCLUDE LECTURES BY REGULAR FACULTY AND GUEST RESOURCES, CLASS DISCUSSION, CASE ANALYSES, AND AN APPLIED FIELD SITE STUDY. (For HPM students)</p>		
HPM 2037	ESSAY-HA	Credit(s): 01.0 to 03.0
<p>THE ESSAY IS DESIGNED TO PROVIDE THE STUDENT WITH AN OPPORTUNITY TO INTEGRATE THE MAJOR COMPONENTS OF THE HEALTH ADMINISTRATION LEARNING EXPERIENCE. THE STUDENT IS EXPECTED TO DEMONSTRATE ANALYTICAL ABILITY AND TECHNICAL PROFICIENCY IN EXPOSITORY WRITING.</p>		
HPM 2049	HUMN RESORC MGT HC & PH PROF	Credit(s): 02.0
<p>THIS COURSE ENCOMPASSES BOTH PERSONNEL ADMINISTRATION AND LABOR RELATIONS CONCEPTS, PROCESSES AND ISSUES PRESENTED WITHIN A BROAD HUMAN RESOURCE MANAGEMENT PERSPECTIVE. THE EMPHASIS OF THE COURSE IS ON BEHAVIORAL IMPLICATIONS OF LEGAL-REGULATORY, ECONOMIC, CULTURAL, AND TECHNICAL FORCES AFFECTING THE MANAGEMENT OF PEOPLE IN HEALTH CARE ORGANIZATIONS VIEWED AS AN OPEN SYSTEM. PERSPECTIVES OF ORGANIZATION THEORY AND BEHAVIOR, PERSONNEL AND LABOR LAW WILL BE APPLIED TO THE ANALYSIS OF HUMAN RESOURCE/LABOR RELATIONS PROBLEMS AND EFFECTIVE MANAGEMENT AND SUPERVISORY PRACTICE. (MHA students and others)</p>		
HPM 2050	HEALTH SYMS ENGINEERING SEMINR	Credit(s): 01.0
<p>THE SEMINAR SUPPLEMENTS THE EDUCATION PROVIDED BY HEALTH POLICY AND MANAGEMENT AND INDUSTRIAL ENGINEERING DEPARTMENTS BY CREATING A FORUM FOR EXPOSURE AND DISCUSSION OF HEALTHCARE SYSTEMS ENGINEERING ISSUES. STUDENTS BECOME AWARE AND ARE EXPOSED TO THE ROLE OF VENDORS/CONSULTANTS THAT BRING SOLUTIONS FOR HEALTHCARE DELIVERY PROCESSES. THE STANDARDS FOR PROFESSIONAL LEADERSHIP REQUIRED FOR HEALTH MANAGEMENT ARE REINFORCED. [Effective 2017, term 2181, revised credit hours.]</p>		
HPM 2055	MGNG HLTH PROGS & PROJECTS	Credit(s): 02.0
<p>THE PURPOSE OF THIS COURSE IS TO PREPARE STUDENTS TO EFFECTIVELY MANAGE HEALTH PROGRAMS AND PROJECTS. THE COURSE IS LECTURE/DISCUSSION BASED, BUT WITH AMPLE ANALYTICAL AND WRITTEN ASSIGNMENTS. EXTENSIVE USE IS MADE OF INTERNET RESOURCES. A CONCEPTUAL MODEL OF CORE (STRATEGIZING, DESIGNING, AND LEADING) AND FACILITATIVE (COMMUNICATING, MANAGING QUALITY, MARKETING, AND DECISION-MAKING) MANAGEMENT ACTIVITIES IS USED TO STRUCTURE THE COURSE. THERE ARE NO PREREQUISITES FOR THE COURSE .</p>		

HPM 2063 THE POLITICS OF HEALTH POLICY**Credit(s): 02.0**

THIS 2-CREDIT COURSE IS DESIGNED TO PROVIDE AN UNDERSTANDING OF THE KEY POLITICAL DIMENSIONS OF THE HEALTH POLICY-MAKING PROCESS IN THE UNITED STATES. THE COURSE IS DESIGNED FOR STUDENTS WITH AN INTEREST IN HEALTH POLICY, ALTHOUGH NO PREVIOUS FORMAL TRAINING IN POLICY OR POLITICS IS REQUIRED. WE WILL EXAMINE THE ROLES OF GOVERNMENT INSTITUTIONS AND POLITICAL ACTORS BOTH INSIDE AND OUTSIDE GOVERNMENT IN DEVELOPING AND IMPLEMENTING HEALTH POLICY. PAST AND PRESENT HEALTH CARE POLICY DEBATES WILL BE USED TO ILLUSTRATE THE CONCEPTS AND THEORIES DISCUSSED IN CLASS. STUDENTS WILL ACQUIRE AN UNDERSTANDING OF THE POLITICAL PROCESSES IN WHICH HEALTH POLICIES ARE CONSIDERED, AND GAIN PRACTICAL EXPERIENCE EXECUTING POLITICAL STRATEGIES IN THE CONTEXT OF HEALTH POLICY CAMPAIGNS.

HPM 2064 HEALTH POLICY ANALYSIS**Credit(s): 02.0**

THE AIMS OF THIS COURSE ARE TO PROVIDE STUDENTS WITH 1) AN OVERVIEW OF THE U.S. HEALTH CARE DELIVERY SYSTEM AND CURRENT POLICY CHALLENGES, AND 2) AN INTRODUCTION TO POLICY ANALYSIS TOOLS USEFUL FOR DEFINING POLICY PROBLEMS, ASSESSING ALTERNATIVE SOLUTIONS AND EXAMINING EFFECTS OF HEALTH POLICIES. THE FRAMEWORK USED FOR ACHIEVING THESE AIMS WILL BE TO CONSIDER HEALTH POLICY FROM THE PERSPECTIVE OF THE MAIN STAKEHOLDERS IN THE SYSTEM: PATIENTS, PROVIDERS, HEALTH PLANS, SUPPLIERS (E.G. PHARMACEUTICAL AND MANUFACTURING INDUSTRY), AND PAYERS. COURSE MATERIALS INCLUDE A POLICY ANALYSIS TEXT BOOK, PEER-REVIEWED ARTICLES, AND CASE STUDIES OF CONTEMPORARY HEALTH POLICY ISSUES. NO PREREQUISITES ARE REQUIRED FOR THIS COURSE. (For master students.)

HPM 2075 NAV PHYSICIAN-ADMI RELATNSHIP**Credit(s): 02.0**

This course is designed to provide the student with an introduction to the role of physician administrators in the emerging healthcare matrix based organizational model. Physicians, by virtue of their training and clinical experience, bring a background and orientation to administrative roles that differs significantly from the traditional orientation of the non-physician administrator. This often results in a clash of cultures which if not properly managed can negatively impact organizational efficiency. It is imperative that non-physician administrators develop the skill sets that will facilitate the merging of the physician's primarily clinical culture with the non-physician administrator's more traditional business and operational culture in support of an organization's overall mission. The course will emphasize the physician administrator's approach to C-Suite management and provide the student with exposure to and practical knowledge of the administrative and operational issues which commonly engage physician administrators. This course should prepare the student to function within a C-Suite environment that is led or populated by physicians in either a combined clinical and administrative or purely administrative role. Additionally, the student will gain exposure to the myriad of regulatory, quality/safety and patient centric issues for which physician administrators commonly assume overall responsibility. Commonly, while these issues are championed by the physician administrator, the day to day responsibility for the design and implementation of focused resolution strategies becomes the responsibility of the non-physician administrator. This mandates the development of the ability to prioritize, for strategic planning purposes, and to have sufficient competency with the identification and analysis of relevant metrics and the ability to utilize this type of data to formulate effective action plans. This course focuses upon this skill set and is structured to afford the student the opportunity to develop project specific strategies based upon operational metrics for clinical initiatives that impact operational efficiency and excellence. The student will also be provided the opportunity to develop resolution strategies based upon operational metrics for clinical initiatives that impact operational efficiency and excellence.

[New course for spring 2018, term 2184.]

HPM 2080 AN INTRODUCTION TO PATIENT SAFETY**Credit(s): 03.0**

THIS COURSE IS DESIGNED AS AN INTRODUCTION TO PATIENT SAFETY IN THE U.S. HEALTHCARE SYSTEM. NO PREVIOUS KNOWLEDGE OF SAFETY IS REQUIRED. EMPHASIS EARLY IN THE COURSE WILL BE PLACED ON UNDERSTANDING THE HEALTHCARE SYSTEM AND ERRORS THAT EXIST. THEN THE COURSE WILL EMPHASIZE REGULATIONS IN DIFFERENT HEALTHCARE SETTINGS RELATED TO PATIENT SAFETY. FINALLY, SPECIFIC TOOLS THAT ARE USED IN PATIENT SAFETY SETTINGS WILL BE DESCRIBED.

HPM 2081 PUBLIC HEALTH AGENCY MGMNT**Credit(s): 03.0**

THE COURSE PUBLIC HEALTH AGENCY MANAGEMENT FOCUSES ON THE AREAS OF KNOWLEDGE AND SKILLS NECESSARY TO MANAGE PUBLIC HEALTH AGENCIES. THE COURSE COVERS TOPICS SUCH AS CORE FUNCTIONS AND PUBLIC HEALTH PRACTICE, LEGAL BASIS FOR PUBLIC HEALTH, PUBLIC HEALTH INTERVENTIONS, CONFIGURING HEALTH DEPARTMENTS, FUNDAMENTALS OF MANAGEMENT THEORY AND APPLICATION, AGENCY BUDGETING AND PUBLIC HEALTH CONSTITUENCIES. CLASSES INCLUDE A LECTURE AND CLASS DISCUSSION OF A CASE STUDY OR RELATED QUESTION. THE CLASS ENDS WITH A FINAL GROUP REPORT AND GROUP PRESENTATION OF A CLASS PROJECT RELATIVE TO THE DEVELOPMENT OF A COUNTY HEALTH DEPARTMENT.

HPM 2105 INTRO TO US HC DELIVERY SYST 1**Credit(s): 01.0**

INTRODUCTION TO THE US HEALTHCARE DELIVERY SYSTEM 1 IS A REQUIRED COURSE FOR FIRST YEAR HPM MHA AND MPH STUDENTS. THIS COURSE IS THE FIRST OF A TWO PART SEQUENCE THAT WILL: PROVIDE AN HISTORIC AND CURRENT OVERVIEW OF BASIC ELEMENTS OF THE US HEALTHCARE DELIVERY SYSTEM, REVIEW HPM PRACTICAL EXPERIENCES IN THE CONTEXT OF PROFESSIONAL AND LEADERSHIP COMPETENCIES, AND INCLUDE CURRENT PERSPECTIVES PROVIDED BY SELECTED GUEST HEALTHCARE EXECUTIVES.

Note: Effective 2016, Term 2171: Revised title, description, credits, grading.

HPM 2106 HLTH SYSM LDRS & PROF DVLP 2 Credit(s): 01.0

THIS IS A REQUIRED SPRING COURSE FOR THE FIRST YEAR MHA THAT COVERS ADDITIONAL ELEMENTS OF US HEALTHCARE SYSTEM. REVIEW IN GREAT DEPTH OF THE MANAGEMENT RESIDENCY PROCESS, EXPECTATIONS AND OPPORTUNITIES CONTINUES IN THIS COURSE.

Note: Effective 2015, term 2154, title and course description change. (Previous title: Leadership, Professionalism & Career Development.)

HPM 2108 LDRS, PROFISM AND CAREER DVLP Credit(s): 01.0

THIS IS A REQUIRED COURSE FOR MPH AND MHA STUDENTS RELATED TO THE FUNDAMENTALS OF THREE AREAS: LEADERSHIP, WHICH FOCUSES ON TEAMWORK, MANAGING AND LEADING PEOPLE, AND COMMUNICATION BEST PRACTICES. THE SECOND, PROFESSIONALISM, FOCUSES PRIMARILY ON PRINCIPLES OF ETIQUETTE, PROFESSIONAL DRESS, COMMUNICATION BEST PRACTICES AND SETTING ONESELF APART IN THE PROFESSIONAL SETTING. FINALLY, CAREER DEVELOPMENT PRINCIPLES ARE COVERED AND THIS TOUCHES ON CAREER PATHS, DECISION MAKING FOR CAREER SUCCESS, AND OPTIMIZING VARIOUS WORK AND PROFESSIONAL ORGANIZATION EXPERIENCES FOR PROFESSIONAL GROWTH. THE COURSE IS PRIMARILY INTERACTIVE IN LECTURES AND ALSO REQUIRES THE STUDENTS TO KEEP A JOURNAL FOR SELF REFLECTION ON THE TOPICS. A DINNER ETIQUETTE CONSULTANT JOINS THE CLASS AS WELL AS AN EXECUTIVE FROM THE FIELD TO GIVE THEIR PERSPECTIVES ON THE THREE MAIN PRINCIPLES. ACCOUNTABILITY, COMMUNICATION, LEADERSHIP, SELF DEVELOPMENT, AND PROFESSIONALISM ARE THE COMPETENCIES COVERED IN THE COURSE.

HPM 2115 HPM MANAGEMENT RESIDENCY Credit(s): 01.0

THE COURSE IS DESIGNED TO PROVIDE THE STUDENT WITH AN EDUCATIONAL EXPERIENCE IN THE STUDENT'S FIELD OF INTEREST. IT IS A FIELD EXPERIENCE PERFORMED UNDER THE SUPERVISION OF A PRECEPTOR (I.E., A RESPECTED PROFESSIONAL MANAGER IN THE HEALTH FIELD). POTENTIAL SITES INCLUDE A BROAD RANGE OF ORGANIZATIONS SUCH AS HOSPITALS, MULTI-UNIT SYSTEMS, HMO'S, CONSULTING FIRMS, INSURANCE ORGANIZATIONS, HEALTH POLICY AND PLANNING AGENCIES, AND HEALTH DIVISIONS OF CORPORATIONS.

HPM 2123 ADV TOPCS DEC CST-EFFV ANAL HC Credit(s): 03.0

This is an intermediate/advanced level course on using simulation models in health decision sciences and cost-effectiveness analyses. Simulation models have been used widely in healthcare to address important policy questions, such as cancer screening recommendations and efficient organ allocations among transplant patients. The emphasis of this course is on applications and methods that are particularly applicable to issues of medical decision making and public health. Students will learn how to choose a model that best fits their applications. They will learn how to construct, parameterize, and analyze complex decision models, including calibration and validation. In addition, the student will be introduced to state-of-the-art methods in uncertainty analysis, value-of-information analysis, and diagnostic test evaluations. Although advanced topics will be discussed, the focus will not be on programming and mathematical notations will be kept to a minimum. Some familiarity with programming and linear algebra are helpful, but not required. Class sessions will be a combination of lecture format, case discussion, and computer labs with expectations of class participation. It is expected that all students will keep up with the required readings and homework assignments.

[New course for spring 2019, term 2194]

HPM 2125 HEALTH ECONOMICS Credit(s): 03.0

EXAMINES THE MARKET FOR MEDICAL SERVICES, WITH THE VIEW THAT THE SPECIAL NATURE OF THE MARKET DEMANDS CAREFUL ECONOMIC ANALYSIS RATHER THAN THE ABANDONMENT OF ECONOMIC PRINCIPLES. TOPICS INCLUDE THE DEMAND FOR HEALTH AND THE DERIVED DEMAND FOR HEALTH/MEDICAL CARE AND INSURANCE, THE SUPPLY OF MEDICAL SERVICES (PHYSICIAN AND HOSPITAL IN PARTIUCULAR), THE ROLES OF UNCERTAINTY AND INFORMATION, AND THE PROBLEMS OF PRICING, PRODUCTION, AND DISTRIBUTION OF HEALTH AND MEDICAL SERVICES.

HPM 2130 HEALTH LAW AND ETHICS Credit(s): 02.0

THE PURPOSE OF THIS COURSE IS TO INTRODUCE STUDENTS TO THE LEGAL AND ETHICAL ISSUES WHICH IMPACT THE ADMINISTRATION AND DELIVERY OF HEALTH SERVICES. THIS COURSE IS DESIGNED TO PROVIDE STUDENTS WITH THE PRACTICAL KNOWLEDGE NEEDED TO IDENTIFY LEGAL ISSUES INHERENT IN HEALTH CARE AND PUBLIC HEALTH ADMINISTRATION AND TO UNDERSTAND THE LEGAL RAMIFICATIONS OF ADMINISTRATIVE AND MANAGEMENT DECISIONS. THROUGH LECTURE AND CLASS DISCUSSION FOUR MAIN SUBJECT AREAS ARE PRESENTED: AN INTRODUCTION TO THE LEGAL SYSTEM, LEGAL ISSUES IN MANAGING HEALTH CARE ORGANIZATIONS, REGULATING QUALITY OF CARE AND PUBLIC HEALTH LEGAL AUTHORITY. SPECIFIC COURSE TOPICS INCLUDE: SOURCES OF LAW, THE COURT SYSTEM AND LEGAL PROCEDURES, PROFESSIONAL AND INSTITUTIONAL LIABILITY, GOVERNMENTAL REGULATORY METHODS, ANTITRUST LAW, CORPORATE COMPLIANCE PROGRAMS, EMERGENCY CARE, AND ISSUES CONCERNING INFORMED CONSENT, CREDENTIALING OF MEDICAL PROFESSIONALS, CONFIDENTIALITY OF HEALTH INFORMATION, TERMINATION OF CARE, FAMILY PLANNING, AND PUBLIC HEALTH LAW.

HPM 2131 PUBLIC HEALTH LAW AND ETHICS Credit(s): 02.0

THE PURPOSE OF THIS COURSE IS TO INTRODUCE STUDENTS TO PUBLIC HEALTH LAW AND POLICY AND THE LEGAL ENVIRONMENT IN WHICH PUBLIC HEALTH IS PRACTICED. THE COURSE IS DESIGNED TO FAMILIARIZE STUDENTS WITH THE PROCESS BY WHICH LAWS ARE CREATED, INTERPRETED AND ENFORCED, AND TO INTRODUCE THEM TO THE SUBSTANTIVE AREAS OF LAW MOST RELEVANT TO THE FIELD OF PUBLIC HEALTH. THROUGH LECTURE, CASE ANALYSIS, CLASS DISCUSSION AND STUDENT PRESENTATIONS, FIVE MAIN CONTENT AREAS WILL BE PRESENTED 1) THE LEGAL BASIS FOR PUBLIC HEALTH PRACTICE; 2) THE LAW AND CORE PUBLIC HEALTH FUNCTIONS; 3) THE LAW AND CONTROLLING AND PREVENTING DISEASES, INJURIES, AND DISABILITIES; 4) PUBLIC HEALTH EMERGENCY LAW; AND 5) THE ETHICAL ISSUES IMPACTING PUBLIC HEALTH PRACTICE.

HPM 2133 LAW IN PUBLIC HEALTH PRACTICE Credit(s): 02.0

LOCAL HEALTH DEPARTMENTS PLAY INCREASINGLY PIVOTAL ROLES IN THE PROVISION OF COMMUNITY PUBLIC HEALTH SERVICES; HOWEVER, THEY ALSO ARE EXPERIENCING DIMINISHED FUNDING AND REDUCED WORKFORCES. THIS COURSE IS THE FIRST OF ITS KIND OFFERED AT THE UNIVERSITY OF PITTSBURGH: A PRACTICE-BASED, COLLABORATIVE LEARNING EXPERIENCE FOR PUBLIC HEALTH AND LAW STUDENTS. TOGETHER, STUDENTS WILL DEVELOP INTERVENTIONS TO ADDRESS AN ISSUE IDENTIFIED BY THE ALLEGHENY COUNTY HEALTH DEPARTMENT AS REQUIRING THE EXPERTISE OF BOTH COHORTS.

HPM 2134 INTRO TO HC COMPLIANCE Credit(s): 02.0

THIS COURSE WILL PROVIDE AN OVERVIEW OF THE LEGAL LANDSCAPE REGARDING HEALTH CARE COMPLIANCE AND DEMONSTRATE THE IMPORTANCE OF COMPLIANCE FOR HEALTH CARE ORGANIZATIONS. AS ONE OF THE MOST HIGHLY REGULATED INDUSTRIES IN THE UNITED STATES, HEALTH CARE ENTITIES ARE REQUIRED TO COMPLY WITH NUMEROUS STATUTES AND REGULATIONS AT THE FEDERAL AND STATE LEVEL, WITH HARSH PENALTIES FOR NON-COMPLIANCE. THUS, INDIVIDUALS INVOLVED IN THE ADMINISTRATION AND DELIVERY OF HEALTH CARE MUST BE WELL-VERSED IN THESE LAWS AND REGULATIONS, AS WELL AS THE STRATEGIES HEALTH CARE ENTITIES EMPLOY TO ADDRESS PARTICULAR COMPLIANCE CONCERNS. SPECIFIC TOPICS INCLUDE FRAUD AND ABUSE; DATA PRIVACY AND SECURITY; THE ELEMENTS OF EFFECTIVE COMPLIANCE PROGRAMS; AUDITS, INVESTIGATIONS, AND SELF-DISCLOSURES; AND SIGNIFICANT COMPLIANCE RISK AREAS FOR VARIOUS HEALTH CARE ENTITIES

HPM 2135 HEALTH POLICY Credit(s): 02.0

AN INTRODUCTION TO FEDERAL AND STATE LEGISLATIVE, ADMINISTRATIVE, AND BUDGET SYSTEMS AS THEY AFFECT HEALTH SERVICES. THE COURSE FOCUSES ON THE STUDY OF SELECTED HEALTH POLICIES, CONSIDERING THEM IN THEIR HISTORICAL PERSPECTIVE, PRESENT STATUS, AND FUTURE DIRECTION WITHIN THEIR SOCIAL, ECONOMIC, AND POLITICAL CONTEXTS.

HPM 2141 MANAGERIAL EPIDEMIOLOGY Credit(s): 03.0

EPIDEMIOLOGY IS CONCERNED WITH THE MEASUREMENT OF THE HEALTH OF POPULATIONS AND UNDERSTANDING THE DETERMINANTS OF THAT HEALTH. IT IS ONE OF THE FUNDAMENTAL DISCIPLINES OF PUBLIC HEALTH, AND PROVIDES THE BASIS FOR MUCH OF WHAT WE KNOW ABOUT HEALTH AND DISEASE. AS A REQUIRED MHA COURSE MANAGERIAL EPIDEMIOLOGY TAKES A BROAD VIEW OF THE DEFINITION OF "POPULATION" AND WILL INCLUDE THE STUDY OF MULTIPLE POPULATIONS OF INTEREST, SUCH AS THE POPULATION: CARED FOR IN THE SERVICE AREA OF A HOSPITAL, COVERED BY A PARTICULAR INSURANCE CARRIER, AND LARGER POPULATIONS SUCH AS A STATE, NATION AND THE WORLD. THE COURSE PROVIDES STUDENTS WITH THE KNOWLEDGE AND SKILLS REQUIRED TO ANALYZE, UNDERSTAND AND INTERPRET THE DATA PRODUCED BY HEALTH CARE ORGANIZATIONS AND IDENTIFY THE MANAGERIAL IMPLICATIONS OF THE DATA BY SUMMARIZING DATA APPROPRIATELY, UNDERSTAND THE CHARACTERISTICS OF MECHANISMS (METHODOLOGIES) THAT CREATED THE DATA, AND KNOW WHEN DATA OBSERVED IS A COMMON/EXPECTED OR RARE OCCURRENCE.

HPM 2143 PH SYMS:LGL, ECON&OPRATNL FDS Credit(s): 02.0

THIS IS A REQUIRED COURSE FOR THE MPH DEGREE IN HEALTH POLICY & MANAGEMENT. THE U.S. PUBLIC HEALTH SYSTEM IS COMPRISED OF BOTH PUBLIC-SECTOR AND PRIVATE-SECTOR ENTITIES WHOSE INTERDEPENDENCIES AND COMPETING INTERESTS MUST BE UNDERSTOOD BY THOSE RESPONSIBLE FOR DECISION MAKING AND PROBLEM SOLVING. THIS COURSE ORIENTS STUDENTS TO THE GOVERNMENTAL AND ORGANIZATIONAL SYSTEMS THAT SUPPORT POPULATION HEALTH IN THE UNITED STATES AND, FOR PURPOSES OF COMPARISON AND GLOBAL OPERATIONS, IN OTHER COUNTRIES AS WELL. THE COURSE EXAMINES CRITICAL PUBLIC HEALTH SYSTEM PROBLEMS WITH EMPHASIS ON HEALTH DISPARITIES AND VULNERABLE POPULATIONS. STUDENTS WILL HEAR LECTURES, ENGAGE IN CASE STUDY DISCUSSIONS, AND CONDUCT PROBLEM-BASED LEARNING

HPM 2145 MKTG HLTH SVCS STRAT BUS PLANS Credit(s): 03.0

ANALYSIS OF CONCEPTS VITAL TO THE CREATION OF SUPERIOR COMPETITIVE MARKETING PLANNING STRATEGIES FOR HEALTH SERVICES PROVIDERS. EMPHASIS, USING PRINCIPLES OF EPIDEMIOLOGY, ON EFFECTIVE MEASUREMENT OF NEED IN SERVICE AREA.

HPM 2150	STRATGC MGT HLTH SERVRS ORGNS	Credit(s): 03.0
THIS 'CAPSTONE' COURSE FOR THE PROGRAM STRESSES THE APPLICATION AND INTEGRATION OF KNOWLEDGE AND TECHNIQUES LEARNED IN THE CONTEXT OF SPECIFIC FUNCTIONS AND DISCIPLINES, FOCUSES ON IDENTIFYING STRATEGIC ISSUES IN COMPLEX ENVIRONMENTS, AND FORMULATING REALISTIC RESPONSES. THE EMPHASIS THROUGHOUT IS ON UNDERSTNDING HOW TO IMPROVE THE MAJOR PATTERNS OF RESOURCE ALLOCATION WITHIN THE ORGANIZATION IN ORDER TO CREATE LASTING VALUE.		
HPM 2205	INDEPENDENT STUDY--HA	Credit(s): 01.0 to 03.0
STUDENTS WITH MAJOR INTERESTS IN SPECIALIZED AREAS PARTICIPATE IN INDIVIDUAL STUDY, RESEARCH ACTIVITIES, OR ADVANCED READINGS WITH A SPECIFIED FACULTY MEMBER.		
HPM 2207	QUALITY ASSMT PATIENT SAFETY	Credit(s): 03.0
EXAMINES THE DEFINITION OF QUALITY IN HEALTHCARE FROM THE PERSPECTIVES OF PROVIDERS, HEALTH PLANS, AND CONSUMERS. HEALTHCARE STANDARDS OF JCAHO, NCQA, AND HEDIS ARE REVIEWED. THE ROLE OF CLINICAL PATHWAYS, OUTCOME MEASURES, TECNOLOGY AND THE INTERNET ARE EXPLORED AS THEY IMPACT THE QUALITY OF HEALTHCARE. (Effective Fall 2012 (Term 2131)--title change and credit increase. Previous title "Quality Assessment").		
HPM 2214	FUNDAMNTLS OF HEALTHCRE GVRNC	Credit(s): 02.0
THE PURPOSE OF THIS COURSE IS TO PROVIDE STUDENTS WITH A SENSE OF THE RESPONSIBILITIES OF GOVERNING BOARDS OF VOLUNTARY HOSPITALS & TO ENABLE THEM TO INTERRELATE WITH THEIR BOARDS APPROPRIATELY & CONSTRUCTIVELY. THE SUBSTANCE OF INTERRELATIONSHIPS BETWEEN GOVERNING BOARDS & MANAGERMENTS IS AS VARIED AS ARE THE FORMS OF THE ORGANIZATIONS TO WHICH THEY RELATE AND THE PERSONALITIES OF THE INDIVIDUALS INVOLVED. SUBJECTIVE PERCEPTIONS ARE OFTEN MORE IMPORTANT THAN FORMAL RULES AND EFFECTIVE GOVERNANCE IS MORE ART THAN SCIENCE. THE COURSE PROVIDES GUIDELINES TO THIS ART.		
HPM 2215	CMP METHS DEC CST-EFFCTN ANAL	Credit(s): 01.0
THIS COURSE EXPANDS ON TOPICS INTRODUCED IN COST-EFFECTIVENESS ANALYSIS IN HEALTH CARE AND IN CLINICAL DECISION ANALYSIS AND PROVIDES ADDITIONAL GUIDELINES FOR USING DECISION SCIENCES IN LARGER, MORE COMPLEX APPLICATIONS. TOPICS INCLUDE MODELING CLINICAL PROCESSES AND SYSTEMS; DISCRET EVENT SIMULATION; ADVANCED SENSITIVITY ANALYSIS AND CONFIDENCE LIMITS; CONTROVERSIES SURROUNDING THE USE OF COST-EFFECTIVENESS ANALYSES; AND MULTIATTRIBUTE UTILITY THEORY.		
[Title change effective Fall 2015 (2161). Previous title: Advanced Methods Decision and Cost-Effectiveness Analysis]		
HPM 2216	HLTH INSURANCE: FINCG HLTH CARE	Credit(s): 03.0
COURSE EXAMINES THE CONCERNS AND PRACTICES OF PRIVATE HEALTH INSURANCE; THE RELATIONSHIPS AND ACTIVITIES ESTABLISHED BY THE INSURANCE CONTRACTS AMONG THE INSURER, INSURED, AND PROVIDERS; THE INSURING PROCESS OF MARKETING, UNDERWRITING AND PRICING; THE INTERRELATIONSHIPS OF PRIVATE AND PUBLIC INSURANCE PROGRAMS; AND THE VARIED GOVERNMENT ACTIVITES RELATED TO INSURANCE. THE OBJECTIVE OF THIS COURSE IS TO INCREASE UNDERSTANDING OF THE ACCESS, FUNDING, AND INSURING ISSUES SURROUNDING HEALTH CARE AND TO EXPLORE THE ALTERNATE STRATEGIES BEING PURSUED IN RESPONSE TO ENVIRONMENT.		
HPM 2217	CLINICAL DECISION ANALYSIS	Credit(s): 01.0
THIS COURSE PROVIDES AN INTRODUCTION TO THE USE OF DECISION SCIENCES IN HEALTH CARE. IN ADDITION TO DEVELOPING A CONCEPTUAL UNDERSTANDING OF MEDICAL DECISION-MAKING, THE COURSE WILL DEVELOP TECHNICAL SKILLS IN DECISION ANALYSIS INCLUDING THE CREATION/EVALUATION OF DECISION TREES, THE USE OF SENSITIVITY ANALYSIS, AND THE INCORPORATION OF SPECIFIC PATIENT PREFERENCES THROUGH THE USE OF UTILITY ANALYSIS. THE ADVANTAGES AND DISADVANTAGES OF FORMAL MATHEMATICAL MODELS FOR THE ANALYSIS OF CLINICAL CONDITIONS WILL BE PRESENTED. EXAMPLES FROM CURRENT MEDICAL LITERATURE WILL BE DISCUSSED.		
HPM 2218	INTEGRATED DELIVERY SYST NETWORK	Credit(s): 01.5
COURSE WILL EXPLORE THREE ASPECTS OF INTEGRATED DELIVERY SYSTEMS: 1) EFFORTS TO DEVELOP VERTICALLY INTEGRATED SERVICES 2) INTEGRATION OF PHYSICIAN AND HOSPITAL SERVICES; AND 3) INTEGRATION OF PAYOR AND PROVIDERS. STUDENTS ENROLLED IN THE COURSE WILL COMPLETE AN IN-DEPTH ANALYSIS OF A SUCCESSFULLY OPERATING INTEGRATED SYSTEM.		

HPM 2220	COST EFFECTVNS ANAL IN HLTH CARE	Credit(s): 01.0
<p>PROVIDES AN INTRO TO AND DEVELOPS TECHNICAL SKILLS IN THE ECONOMIC EVALUATION OF HEALTH CARE PROGRAMS. A BRIEF INTRO TO THE ECONOMIC FOUNDATION OF COST EFFECTIVENESS AND COST BENEFIT ANALYSIS IS FOLLOWED BY AN EXAMINATION OF THE METHODOLOGIES INVOLVED IN PERFORMING COST EFFECTIVENESS ANALYSES. TOPICS INCLUDE: DEFINITIONS OF COST AND BENEFITS, EFFECT OF THE PERSPECTIVE OF THE ANALYSIS, CALCULATION OF COST-EFFECTIVENESS RATIOS, PERFORMANCE OF SENSITIVITY ANALYSIS, DISCOUNTING OF COSTS AND BENEFITS, AND DISCUSSIONS OF CURRENT CONTROVERSIES IN CONDUCT OF COST-EFFECTIVENESS ANALYSIS.</p>		
HPM 2240	CSE STDY ANAL & PRSNTN HC MGT	Credit(s): 03.0
<p>THE PURPOSE OF THIS COURSE IS TO FOSTER CRUCIAL SKILLS FOR HEALTHCARE LEADERS INCLUDING PERSUASIVE PUBLIC SPEAKING, ASSESSMENT AND ANALYSIS SKILLS OF CASE STUDIES, AS WELL AS THE ABILITY TO WORK IN TEAMS TO SOLVE PROBLEMS. THIS COURSE FOCUSES NOT ONLY ON THE ABILITY TO INCREASE SKILL IN THESE AREAS BUT ALSO DEVELOP PROFESSIONALLY BY PRESENTING IN FRONT OF HEALTHCARE EXECUTIVES AND CONVEYING MESSAGES EFFECTIVELY AND CREATING BUY-IN ON THEIR PROPOSED SOLUTIONS TO PROBLEMS. THE COURSE IS A PREP COURSE FOR THE STUDENTS TO ALSO ATTEND THE UNIVERSITY OF ALABAMA AT BIRMINGHAM CASE COMPETITION IN THE WINTER, A PRESTIGIOUS COMPETITION OF MOST MHA PROGRAMS IN THE COUNTRY. THE COURSE WILL INCLUDE THREE CASES, ANALYZED AND PREPARED BY STUDENTS BROKEN INTO TEAMS, WHERE AFTER PREPARATION AND ANALYSIS WILL PRESENT TO EXECUTIVES IN THE COMMUNITY FOR SCORING AND JUDGING. THE TEAM WILL BE SELECTED BASED ON STUDENT PERFORMANCE FROM THE COURSE.</p>		
HPM 2275	HPM SPECIAL STUDIES	Credit(s): 01.0 to 03.0
<p>PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE ADVANCED STUDY UNDER THE GUIDANCE OF AN HPM FACULTY MEMBER(S). (Only for HPM students.)</p>		
HPM 2300	HEALTH LAW FIELD EXPERIENCE	Credit(s): 03.0
<p>REQUIRED PLACEMENT IN A LAW FIRM OR IN A HOUSE COUNSEL OFFICE IN A HEALTH ORGANIZATION OR SYSTEM, A PUBLIC HEALTH AGENCY, OR A HEALTH POLICY AGENCY.</p>		
HPM 2700	SEMINAR IN HLTH SYMS LDRS	Credit(s): 01.5
<p>THIS COURSE WILL CONSIST OF A SERIES OF CASED-BASED EXAMINATIONS OF SPECIFIC MANAGERIAL AND LEADERSHIP PROBLEMS AND DECISIONS THAT HAVE FACED LOCAL HEALTH SYSTEMS LEADERS IN WESTERN PENNSYLVANIA. HEALTH CARE REIMBURSEMENT, LICENSING AND ACCREDITATION, AND MEASURING HEALTH CARE QUALITY HAS BECOME BOTH MORE COMPLICATED AND MORE IMPORTANT AS PRESSURES TO REDUCE EXPENSES AND IMPROVE QUALITY INCREASE. SIMULTANEOUSLY, THERE HAS BEEN A STEADY INCREASE IN THE NUMBER OF CLINICIANS WHO HAVE ASSUMED MANAGERIAL POSITIONS, SUCH AS MEDICAL DIRECTORS OF CLINICAL UNITS, DIRECTORS OF QUALITY MEASUREMENT AND IMPROVEMENT PROGRAMS, UTILIZATION REVIEW AND MANY OTHERS, AS WELL AS THE APPEARANCE OF CLINICIANS IN THE "C-SUITE" OF MANY HOSPITALS AND HEALTH CARE ORGANIZATIONS. UTILIZING ADJUNCT FACULTY WHO ARE CURRENTLY (OR VERY RECENTLY HAVE BEEN) EXECUTIVE LEADERS IN HEALTH SYSTEMS, THIS COURSE WILL EXAMINE A SERIES OF COLLABORATIONS, PROBLEMS, CONFLICTS AND SOLUTIONS THAT DEVELOPED BETWEEN HEALTH SYSTEM ADMINISTRATORS AND CLINICAL LEADERSHIP IN HEALTH CARE ORGANIZATIONS IN THE WESTERN PA AREA. THE MECHANICS OF THE COURSE WILL BE A SERIES OF CASES, BASED ON AN ACTUAL RECENT ISSUE IN HEALTH CARE MANAGEMENT IN WHICH THE SENIOR ADJUNCT FACULTY MEMBER WAS INVOLVED. STUDENTS (INDIVIDUALLY OR IN GROUPS) WILL EVALUATE THE CASE, PREPARE A RESPONSE, AND MAKE A SHORT PRESENTATION OF THEIR "SOLUTION" TO THE PROBLEM TO THE HEALTH SYSTEM EXECUTIVE AND CLINICAL LEADER INVOLVED IN THAT CASE. AN INTERACTIVE DISCUSSION WILL FOLLOW. THIS IS A REQUIRED COURSE FOR STUDENTS IN THE CERTIFICATE IN HEALTH SYSTEMS LEADERSHIP AND MANAGEMENT PROGRAM, AND CAN BE USED AS AN ELECTIVE COURSE BY OTHER STUDENTS WITH PERMISSION OF THE INSTRUCTOR.</p>		
HPM 2821	CURRENT TOPICS HLTH ECONOMICS	Credit(s): 01.5
<p>THE PURPOSE OF THE COURSE IS TO PROVIDE STUDENTS WITH EXPOSURE TO CURRENT TOPICS IN THE FIELD OF HEALTH ECONOMICS FROM THE PERSPECTIVE OF ACTIVE RESEARCHERS. A SERIES OF HEALTH ECONOMISTS WILL BE INVITED TO DELIVER SEMINARS ON A CURRENT RESEARCH PROJECT OF THEIR OWN, ADDRESSING THE THEORETICAL BACKGROUND, METHODOLOGY AND PRACTICAL IMPLICATIONS OF THEIR FINDINGS. STUDENTS WILL GAIN A BROAD PERSPECTIVE ON THEIR FIELD OF HEALTH ECONOMICS AND THE RANGE OF TOPICS AND METHODOLOGIES USED BY RESEARCHERS.</p>		
HPM 2905	QUASI-EXPRML DSGN HSR	Credit(s): 03.0
<p>THE PURPOSE OF THIS COURSE IS TO PROVIDE STUDENTS WITH THE RESEARCH DESIGN SKILLS DRAWN FROM THE SOCIAL SCIENCE TRADITION AS APPLIED TO THE DELIVERY OF HEALTH SERVICES. THIS COURSE PROVIDES A SURVEY OF RESEARCH DESIGN, SELECTION AND DEVELOPMENT OF RESEARCH QUESTIONS, CONCEPTUALIZATION, MEASUREMENT, AND DATA COLLECTION/ACQUISITION. THE FOCUS IS ON THE APPLICATION OF QUASI-EXPERIMENTAL AND OBSERVATIONAL APPROACHES TO RESEARCH IN APPLIED HEALTH CARE SETTINGS.</p>		

HPM 3010 SEM ORGNL STDS:HC ORGS/ENVRNS**Credit(s): 03.0**

THIS SEMINAR IS INTENDED TO FACILITATE THE MASTERY OF CONCEPTUAL APPROACHES TO HEALTH CARE ORGANIZATIONS. THROUGH A COMBINATION OF IN-CLASS DISCUSSIONS, SELF-DIRECTED RESEARCH, WRITTEN ANALYSES, AND ORAL PRESENTATIONS, STUDENTS WILL CLARIFY COMPLEX ISSUES AND EVALUATE INNOVATIVE IDEAS. THE COURSE CONTENT WILL INCLUDE SUCH TOPICS AS ORGANIZATIONAL DESIGN, ORGANIZATIONAL BEHAVIOR, AND ORGANIZATIONAL ENVIRONMENTS. THE PRIMARY APPROACH TO ANALYZING ORGANIZATIONAL PHENOMENA WILL BE THE THEORETICAL BASIS OF CAUSALITY, AND THE LEVEL(S) OF ANALYSIS ADDRESSED BY THE THEORY.

HPM 3064 HEALTH POLICY ANALYSIS**Credit(s): 03.0**

THIS COURSE IS THE DOCTORAL VERSION OF HPM 2064. DOCTORAL STUDENTS HAVE SUPPLEMENTAL READING AND WRITING REQUIREMENTS FOR THIS COURSE. THE AIMS OF THIS COURSE ARE TO PROVIDE STUDENTS WITH 1) AN OVERVIEW OF THE U.S. HEALTH CARE DELIVERY SYSTEM AND CURRENT POLICY CHALLENGES, AND 2) AN INTRODUCTION TO POLICY ANALYSIS TOOLS USEFUL FOR DEFINING POLICY PROBLEMS, ASSESSING ALTERNATIVE SOLUTIONS AND EXAMINING EFFECTS OF HEALTH POLICIES. THE FRAMEWORK USED FOR ACHIEVING THESE AIMS WILL BE TO CONSIDER HEALTH POLICY FROM THE PERSPECTIVE OF THE MAIN STAKEHOLDERS IN THE SYSTEM: PATIENTS, PROVIDERS, HEALTH PLANS, SUPPLIERS (E.G. PHARMACEUTICAL AND MANUFACTURING INDUSTRY), AND PAYERS. COURSE MATERIALS INCLUDE A POLICY ANALYSIS TEXT BOOK, PEER-REVIEWED ARTICLES, AND CASE STUDIES OF CONTEMPORARY HEALTH POLICY ISSUES. (For HPM doctoral students--Hlth Serv Res and Policy)

HPM 3065 ADV HEALTH POLICY ANALYSIS**Credit(s): 02.0**

THIS COURSE IS DESIGNED TO BUILD ON THE PRINCIPLES LEARNED IN HPM 3064: HEALTH POLICY ANALYSIS. IT IS AN ADVANCED COURSE FOR DOCTORAL STUDENTS IN HEALTH POLICY AND OTHER DISCIPLINES WITH A FOCUS ON POLICY EVALUATION, TRANSLATING THE RESULTS OF POLICY RESEARCH FOR POLICY MAKERS, AND CHALLENGES TO IMPLEMENTING HEALTH POLICIES. STUDENTS WILL BE EXPECTED TO EXAMINE FOUR CURRENT HEALTH POLICY TOPICS IN DEPTH BY EXAMINING THE CHALLENGES TO POLICY IMPLEMENTATION, CRITIQUING LARGE-SCALE EVALUATIONS OF HEALTH POLICIES, AND TRACKING THE INFLUENCE OF RESEARCH EVIDENCE ON THE POLICYMAKING PROCESS. THE PERSPECTIVES OF POLICY ANALYSTS, PRACTITIONERS IMPLEMENTING (OR RESPONDING TO) POLICIES, AND POLICY MAKERS WILL BE EXAMINED FOR EACH OF FOUR TOPICS. THE COURSE FORMAT WILL INCLUDE A COMBINATION OF STUDENT-LED DISCUSSIONS AND FORMAL PRESENTATIONS, LECTURES BY THE INSTRUCTOR, AND GUEST LECTURES.

HPM 3125 INTERMEDIATE HEALTH ECONOMICS**Credit(s): 03.0**

THE PURPOSE OF THIS COURSE IS TO EXPAND ON INTERMEDIATE MICROECONOMIC PRINCIPLES AND APPLY THESE MORE SOPHISTICATED DYNAMICS TO THE HEALTH CARE MARKET, BOTH DOMESTIC AND INTERNATIONAL. FAMILIARITY WITH INTRODUCTORY ECONOMICS AND CALCULUS IS ASSUMED. COURSE TIME WILL BE SPENT ON A COMBINATION OF LECTURES AND DISCUSSIONS OF SEMINAL PAPERS TO EXPLORE THEORETICAL FRAMEWORKS AND THEIR EMPIRICAL APPLICATIONS.

HPM 3135 HEALTH POLICY**Credit(s): 03.0**

THIS COURSE IS THE DOCTORAL VERSION OF HPM 2135. DOCTORAL STUDENTS HAVE SUPPLEMENTAL READING AND WRITING REQUIREMENTS FOR THIS COURSE. THE COURSE ASSISTS STUDENTS IN DEVELOPING OR ENHANCING KEY "PACKETS" OF KNOWLEDGE, SKILLS, AND ABILITIES (WHICH FORM COMPETENCIES) SUFFICIENT TO PERMIT THEM TO BETTER ANALYZE AND CREDIBLY PREDICT RESULTS OF THE HEALTH POLICYMAKING PROCESS IN THE UNITED STATES AND TO LEARN MORE ABOUT HOW TO EXERT INFLUENCE IN THE HEALTH POLICYMAKING PROCESS AS PART OF THEIR PROFESSIONAL ROLES.

HPM 3501 SEM HLTH SVCS RES METHODS 1**Credit(s): 03.0**

THIS IS PART ONE OF A TWO-PART COURSE FOR DOCTORAL STUDENTS ENROLLED IN HEALTH SERVICES RESEARCH AND POLICY. OTHER DOCTORAL STUDENTS MAY REGISTER WITH PERMISSION OF THE INSTRUCTOR. THE COURSE WILL COVER TWO RELATED COMPETENCIES: RESEARCH DESIGN AND WRITING SKILLS. THE SECOND PART OF THE COURSE WILL CONTINUE WITH GRANT PROPOSAL WRITING SKILLS. THE PURPOSE OF THE COURSE IS TO COVER BASIC ASPECTS OF RESEARCH DESIGN, SELECTION AND DEVELOPMENT OF RESEARCH QUESTIONS, CONCEPTUALIZATION, MEASUREMENT, AND DATA COLLECTION/ACQUISITION. STUDENTS WILL ALSO GAIN EXPERIENCE CONDUCTING LITERATURE REVIEWS, CRITICALLY REVIEWING MANUSCRIPTS AND GRANT PROPOSALS, AND WRITING RESEARCH QUESTIONS.

HPM 3502 SEM HEALTH SVCS RES METHODS 2**Credit(s): 03.0**

THIS IS PART TWO OF A TWO-PART COURSE FOR DOCTORAL STUDENTS ENROLLED IN HEALTH SERVICES RESEARCH AND POLICY. OTHER DOCTORAL STUDENTS MAY REGISTER WITH PERMISSION OF THE INSTRUCTOR. THE COURSE WILL COVER TWO RELATED COMPETENCIES: RESEARCH DESIGN AND WRITING SKILLS. THE SECOND PART OF THE COURSE WILL CONTINUE WITH GRANT PROPOSAL WRITING SKILLS. THE PURPOSE OF THE COURSE IS TO COVER BASIC ASPECTS OF RESEARCH DESIGN, SELECTION AND DEVELOPMENT OF RESEARCH QUESTIONS, CONCEPTUALIZATION, MEASUREMENT, AND DATA COLLECTION/ACQUISITION. STUDENTS WILL ALSO GAIN EXPERIENCE CONDUCTING LITERATURE REVIEWS, CRITICALLY REVIEWING MANUSCRIPTS AND GRANT PROPOSALS, AND WRITING RESEARCH QUESTIONS. (For HPM doctoral students only.)

HPM 3505 ADV EMP MICRO MTH APP HLTH RES**Credit(s): 03.0**

THIS COURSE IS DESIGNED TO COVER APPLIED ECONOMETRICS AND REGRESSION METHODS AT A FAIRLY ADVANCED LEVEL. THE COURSE REVIEWS THE FUNDAMENTALS OF ECONOMETRICS, SUMMARIZES EMPIRICAL MICROECONOMICS METHODS AND DISCUSSES THE APPLICATIONS FOR UNIQUE ISSUES IN HEALTHCARE RESEARCH. THIS COURSE WILL PROVIDE STUDENTS WITH ADVANCED TOOLS NECESSARY TO EVALUATE AND CONDUCT EMPIRICAL RESEARCH USING EXISTING DATASETS. THE FOCUS IS ON THE "HANDS-ON" USE OF ECONOMIC AND HEALTH DATA.

(Prerequisites: This course is intended for 2nd year PhD students who have taken a one-year sequence of intermediate or advanced courses in theoretical and applied statistics comparable to STAT 2131, STAT 2132, and have also taken BIOST 2046 or its equivalent. Some familiarity with matrix algebra and linear algebra is highly recommended.)

HPM 3508 RESEARCH AND DISSERTATION PHD**Credit(s): 01.0 to 15.0**

DISSERTATION CREDITS FOR QUALIFIED DOCTORAL STUDENTS IN THE DEPARTMENT OF HEALTH POLICY & MANAGEMENT.

HUGEN 2010 BIOINF RESOURCES GENETICISTS**Credit(s): 01.0****Corequisite(s): HUGEN 2022 and HUGEN 2040**

The focus of this course is the online bioinformatic resources available to geneticists. Students will learn to locate and use such resources and interpret the data therein to inform the development of research questions, aid in clinical decision-making, and enhance the understanding and contextualization of research results.

[New course for fall 2016, term 2171. For HUGEN students.]

HUGEN 2011 SCIENTIFIC WRITING HUMN GENETC**Credit(s): 01.0**

Writing and communication skills are amongst the most important assets for any human genetics researcher and/or public health genetics professional. By facilitated discussions and reading and writing exercises/assignments, Scientific Writing in Human Genetics is designed to empower Human Genetics students to establish the communication mindset to write clear and compelling scientific narratives in plain language, utilize the writing resources available on campus and online, improve their scientific writing skills, and complete a solid draft of the Background/Introduction section of their MPH essay, MS Thesis, or PhD research proposal/comprehensive exam document (and possibly, additional sections, including methods, results, or the entire MPH essay) or another academic work with permission of the instructor. The ability to write and use standard English language is required. Whether English is your first or second language, if you are not comfortable writing grammatically correct and properly punctuated English, an "ESL course" is recommended.

[New course, fall 2017, term2181.]

HUGEN 2021 SPECIAL STUDIES**Credit(s): 0.1 TO 15.0**

QUALIFIED STUDENTS MAY UNDERTAKE ADVANCED WORK OR RESEARCH WITH THE APPROVAL AND UNDER THE GUIDANCE OF A MEMBER OF THE STAFF.

HUGEN 2022 HUMAN POPULATION GENETICS**Credit(s): 02.0**

This survey course covers the principles of population genetics as applicable to human populations, including (1) the laws of inheritance that govern the organization of the genomes in populations, (2) the evolutionary forces and phenomena that impact genetic diversity in human populations, and (3) the foundational concepts of genetic epidemiology and gene discovery.

[Effective fall 2017, term 2181, revised course description.]

HUGEN 2025 HUMAN GENETICS SEMINAR**Credit(s): 00.0**

HUMAN GENETICS SEMINARS PRESENT CURRENT GENETICS METHODOLOGY, THEORY, AND DATA.

HUGEN 2026 SPECIAL STUDIES HUMAN GENETICS**Credit(s): 03.0**

This course is designed to provide advanced undergraduates and graduate students with directed, intensive training in laboratory, statistical or clinical research methods relevant to human genetics. These specialized skills are not available in regularly taught courses in the university. Each special study is designed in consultation with an individual member of the human genetics faculty.

[Effective fall 2017, term 2181, revised course description.]

HUGEN 2027 HUMAN GENTCS FALL JOURNAL CLUB**Credit(s): 01.0**

HUMAN GENETICS JOURNAL CLUB MEETS ONCE A WEEK DURING THE FALL SEMESTER TO GIVE STUDENTS AND FACULTY A CHANCE TO PRESENT EXCITING RESEARCH WHICH THEY FEEL IS RELEVANT TO THE DEPARTMENT. THE AUDIENCE IS OTHER STUDENTS AND FACULTY FROM THE DEPARTMENT AND OTHER DEPARTMENTS OF THE SCHOOLS OF HEALTH SCIENCES. PRESENTATIONS ARE INFORMAL AND MEANT TO GIVE STUDENTS THE EXPERIENCE NECESSARY TO BE AN EFFECTIVE COMMUNICATOR, AND TO TEACH THEM CRITICAL SKILLS FOR EVALUATING RESEARCH PUBLICATIONS.

HUGEN 2028 HUGEN JOURN CLUB & PEER REVW**Credit(s): 01.0**

Human genetics journal club provides students and faculty with an opportunity to present and discuss exciting research in an informal format. The purpose of the course is to hone students' oral and written critical evaluation skills.

[Effective spring 2018, term 2814, revised course description.]

HUGEN 2029 INTRODUCTION TO GENE MAPPING**Credit(s): 03.0****Prerequisite(s): HUGEN 2022 and HUGEN 2040 and HUGEN 2034 BIOST 2041**

This course presents a literature-based approach to understanding and interpreting results from gene mapping papers in the field of human genetics. Traditional and state-of-the-art genetic mapping methodologies will be explored.

Students should have a basic understanding of biostatistics [BIOST 2041], molecular genetics [HUGEN 2034 or 2040], and population genetics [HUGEN 2022].

[Effective 2017, term 2181, revised course description.]

HUGEN 2031 CHROMOSOMES AND HUMAN DISEASE**Credit(s): 03.0**

THE ROLE OF CHROMOSOMES IN HUMAN DISEASE IS DISCUSSED AFTER A THOROUGH BACKGROUND ON CHROMOSOME STRUCTURE AND FUNCTION IS PRESENTED. TOPICS COVERED INCLUDE CYTOGENETIC METHODOLOGY, ANEUPLOIDY, CHROMOSOME REARRANGEMENTS, CHROMOSOMES AND CANCER, CHROMOSOME BREAKAGE SYNDROMES, AND FRAGILE SITES ON HUMAN CHROMOSOMES.

HUGEN 2032 GENETIC TECHNIQUES**Credit(s): 02.0****Prerequisite(s): HUGEN 2031**

STUDENTS PARTICIPATE IN LABORATORY EXERCISES TO BECOME ACQUAINTED WITH CYTOGENETICS LABORATORY PROCEDURES INCLUDING CELL CULTURE, CHROMOSOME PREPARATION, CHROMOSOME BANDING, AND KARYOTYPING. CHROMOSOME ANALYSIS AND KARYOTYPE INTERPRETATION ARE PRACTICED.

HUGEN 2034 BIOCHEM MOLEC GENET CPLX DS**Credit(s): 03.0**

This course provides students with an overview of the molecular and biochemical genetic approaches to determine the underlying genetic architecture of common diseases that account for a large portion of the public health burden of disease. The genetic, environmental and epigenetic factors that influence susceptibility to common disease will be illustrated using selected examples, such as cardiovascular disease, neurodegenerative diseases, mental health diseases, autoimmune diseases and eye diseases.

[Effective spring 2018, term 2184, revised course description.]

HUGEN 2035 PRINCIPLES OF GENETIC COUNSLNG**Credit(s): 03.0**

This course addresses fundamental concepts important to genetic counseling principles and practice.

[Effective 2017, term 2181, revised course description.]

HUGEN 2036 GENETIC COUNSELING INTERNSHIP**Credit(s): 04.0**

For this course, students will participate in supervised genetic counseling clinical rotations in a variety of specialty areas. The lectures that are part of the course will address topics relevant to clinical genetics and counseling.

[For Genetic Counseling students.]

[Effective 2017, term 2181, revised course description.]

HUGEN 2038 INTERVNTN SKILL GENETIC CNSLG**Credit(s): 03.0****Corequisite(s): HUGEN 2035**

FOCUSES ON THE UNDERSTANDING OF THEORIES OF INTERVENTION, SKILL DEVELOPMENT AND APPLICATION TO GENETIC COUNSELING. THE COURSE AIMS AT SENSITIZING STUDENTS TO THE ETHICAL DILEMMAS FACED BY AFFECTED FAMILIES AND HEALTH-CARE PROVIDERS.

(For Genetic Counseling students)

HUGEN 2039 RISK CALCULATION GENETIC CNSLG**Credit(s): 01.0****Corequisite(s): HUGEN 2022**

This course provides hands-on training in calculating risk of disease or carrier status in a variety of typical genetic counseling situations, as well as discussion of the limitations of those calculation methods.

[Effective spring 2018, term 2184, revised course description.]

HUGEN 2040 MOL BASIS OF HUMN INHERITED DS**Credit(s): 03.0**

This course will provide an overview of selected human inherited disorders and integrate clinical descriptions with recent genetic, molecular genetics and biochemical insights. Current state of the art molecular genetics methodologies will be integrated into the overviews.
[Effective 2017, term 2181, revised course description.]

HUGEN 2041 BIOETHICS**Credit(s): 03.0**

THIS COURSE IS AN ADVANCED TREATMENT OF SIGNIFICANT PROBLEMS IN MEDICAL ETHICS. TOPICS MAY INCLUDE EUTHANASIA, RIGHTS TO HEALTH CARE, COMPETENCY, ALLOCATION OF RESOURCES, AND OTHER ISSUES OF MEDICAL ETHICS.

HUGEN 2047 CLIN GENETICS CASE CONFERENCE**Credit(s): 01.0**

WITH CLINICAL CASES AND SPECIMENS FROM VARIOUS CLINICAL GENETICS SERVICE UNITS, THIS SEMINAR ILLUSTRATES AND PROVIDES INSIGHTS INTO THE BIOLOGIC, MEDICAL, ETHICAL, AND EMOTIONAL ASPECTS OF GENETIC DISORDERS.

HUGEN 2049 INTRODUCTION PUBLIC HEALTH GENETICS**Credit(s): 03.0**

This course provides a framework in which to assess how advances in genomics may be applied to public health practice and policies that affect both individuals and society. In addition, the ethical, legal, and social consequences of historical, current, and future interventions are considered.
[Effective 2017, term 2181, revised course description.]

HUGEN 2050 PUBLIC HEALTH GENETICS PRACTCM**Credit(s): 01.0 to 06.0**

The practicum is a short term field placement (minimum 200 hours of public health oriented work) with an organization or agency that is relevant to the student's area of interest. Each placement must be agreed upon by the student and the MPH program advisor.
[For PH Genetic students and PH Genetic certificate.]
[Effective 2017, term 2181, revised course description.]

HUGEN 2051 INBORN ERRORS OF DEVELOPMENT**Credit(s): 02.0**

THIS COURSE FOCUSES ON THE CONNECTIONS BETWEEN HUMAN DEVELOPMENT AND INHERITED DISEASE. THE COURSE WILL INCLUDE CORE PRINCIPLES OF DEVELOPMENT OF THE BODY PLAN AND SIGNALING PATHWAYS INVOLVED IN DEVELOPMENT AND DIFFERENTIATION. THESE BIOLOGICAL PROCESSES WILL BE USED TO CATEGORIZE INHERITED HUMAN DISEASES, UNDERSTAND DISEASE MECHANISMS, AND THE CURRENT EFFORTS TO DEVELOP TARGETED TREATMENTS.

HUGEN 2052 ETHCL ISS CLN & PUBHL GENTICS**Credit(s): 01.0****Corequisite(s): HUGEN 2035 or HUGEN 2049**

This course is designed to explore ethical issues as they relate to genetics and genomics in both the clinical and public health contexts. This seminar series provides an ethical framework for analyzing arguments in the literature and cases arising in clinical and research contexts and proceeds throughout the semester with a discussion-based format that encourages students to assume responsibility for engaging in ethical analysis.

[New course for spring 2017, term 2174.]

HUGEN 2053 APPLCS IN PH GENTCS & GENOMCS**Credit(s): 02.0****Corequisite(s): HUGEN 2049****Prerequisite(s): BIOST 2041 or BIOST 2011**

This graduate level course builds on the basic components of public health genetics and genomics and provides students with the opportunity to discuss and apply these concepts to public health. The goal of this course is for students to apply knowledge and skills learned across public health disciplines, especially the use of genetic principles, in a public health practice setting. Using current issues in public health genetics, students will also demonstrate mastery of essential competencies through data analysis, and oral and written communication.

[New course, fall 2017, term 2181.]

HUGEN 2070 BIOINF FOR HUMAN GENETICS**Credit(s): 03.0****Prerequisite(s): HUGEN 2022 and BIOST 2041**

THIS COURSE FOCUSES ON MANIPULATION AND MANAGEMENT OF HUMAN GENETIC DATA, WITH AN EMPHASIS ON ASSOCIATION AND LINKAGE STUDIES. THE COURSE WILL COVER BIOINFORMATICS FOR GENOME-WIDE ASSOCIATION ANALYSIS, SEQUENCE DATA, AND INTEGRATED ANALYSES, AS WELL AS THE R STATISTICAL COMPUTING LANGUAGE. A KEY COMPONENT OF THE COURSE WILL BE HANDS-ON ANALYSES OF EXAMPLE DATA SETS.

(Note: Students should also have basic computing and programming skills.)

HUGEN 2080 STATISTICAL GENETICS**Credit(s): 03.0****Prerequisite(s): HUGEN 2022 and BIOST 2041**

AN ADVANCED COURSE WHICH DISCUSSES THE PRINCIPLES AND PRACTICE OF STATISTICAL GENETICS IN THE AREA OF GENETIC EPIDEMIOLOGY OF HUMAN DISEASES AND TRAITS. THE COURSE WILL COVER STATISTICAL MODELING AND METHODOLOGY IN FAMILIAL AGGREGATION, LINKAGE ANALYSIS AND ASSOCIATION ANALYSIS; THE COURSE INCLUDES HANDS-ON EXPERIENCE WITH CURRENT COMPUTER PROGRAMS USED IN THESE RESEARCH AREAS.

Prerequisites:HUGEN 2022, POPULATION GENETICS and BIOST 2041, BIostatISTICS METHODS I (and BASIC COMPUTING AND PROGRAMMING SKILLS).

HUGEN 3010 RESEARCH & DISSERTATION PH.D.**Credit(s): 01.0 to 15.0**

DISSERTATION CREDITS FOR QUALIFIED DOCTORAL STUDENTS IN THE DEPARTMENT OF HUMAN GENETICS.

IDM 2001 MOLECR BIOLGY MICROBL PATHGNS**Credit(s): 03.0**

STUDENTS WILL DEVELOP A COMPREHENSION OF (1) BACTERIAL ANATOMY, METABOLISM, REGULATION OF GENE EXPRESSION, GENETICS, AND THE ACTION OF ANTI-MICROBIAL AGENTS AT THE MOLECULAR LEVEL; AND (2) THE RELEVANCE OF THIS KNOWLEDGE TO UNDERSTANDING MICROBIAL PATHOGENESIS AND THE HOST RESPONSE. IN ADDITION, PROCARYOTIC AND EUKARYOTIC MODEL SYSTEM OF GENE REGULATION WILL BE COMPARED TO EMPHASIZE THE CONCEPTUAL ASPECTS AND APPLICATION OF MOLECULAR BIOLOGY TO INFECTIOUS DISEASE.

(6/9/14 correction in title "Microbial" not Microbiology.)

IDM 2002 MOLECULAR VIROLOGY**Credit(s): 03.0****Prerequisite(s): IDM 2001 or INTBP 2000**

THE INTENT OF THIS COURSE IS TO PROVIDE A COMPREHENSIVE COVERAGE OF THE ANIMAL VIRUS FAMILIES AND A FEW SELECTED EXAMPLES OF BACTERIAL VIRUSES. THE EMPHASIS OF THE COURSE WILL BE TO PROVIDE AN IN DEPTH COVERAGE OF THE VIRAL LIFE CYCLE, INCLUDING THE FUNDAMENTAL MECHANISMS OF VIRAL REPLICATION AND GENE REGULATION. REPRESENTATIVE MEMBERS OF EACH VIRUS FAMILY WILL BE SELECTED FOR THE LECTURE MATERIAL. THERE WILL BE SUPPLEMENTAL READING ASSIGNMENTS ON ADDITIONAL VIRUSES.

[Effective spring 2017, term 2174, credit increase from 2 to 3 credits. Also, removed co-req IDM 2420.]

IDM 2003 HOST RESPONSE TO MICROBIAL INFEC**Credit(s): 02.0****Prerequisite(s): IDM 2001**

STUDENTS WILL DEVELOP A COMPREHENSION OF THE CONCEPTS AND KNOWLEDGE OF RESISTANCE AND IMMUNE RESPONSES OF HUMANS TO MICROBIAL INFECTION. THE ROLE OF PHAGOCYtic CELLS; COMPLEMENT; LYMPHOCYTES; THE DEVELOPMENT OF HUMORAL AND CELL MEDIATED IMMUNITY AT THE MOLECULAR, CELLULAR, AND ORGAN LEVEL; AND THE CONSEQUENCES IN CONTROLLING AND ENHANCING DISEASE ARE COVERED.

IDM 2004 VIRAL PATHOGENESIS**Credit(s): 02.0**

THE GOAL OF THIS COURSE IS TO INTEGRATE THE LECTURES GIVEN ON A PARTICULAR VIRUS IN THE COMPREHENSIVE VIROLOGY COURSE WITH TWO ADDITIONAL LECTURES WHICH EXPAND THE BASIC BIOLOGY OF THE VIRUS LIFE CYCLE TO THE LEVEL OF VIRUS-HOST INTERACTIONS. THE FIRST LECTURE WILL ADDRESS THE PATHOGENIC PROPERTIES OF THE VIRUS FROM THE PERSPECTIVE OF DISEASE MANIFESTATIONS, IMMUNOLOGY, AND THE NATURAL HISTORY OF INFECTION. THIS WILL BE FOLLOWED BY A SECOND LECTURE WHICH WILL ADDRESS THE MOLECULAR BASIS OF VIRAL PATHOGENESIS AND CURRENT ADVANCES IN ANTIVIRAL RESEARCH.

(For 2nd year and above students only.)

IDM 2007 PH COMMUNICABLE DISEASE PRACM**Credit(s): 01.0 to 03.0**

THE PRACTICUM, THROUGH STRUCTURED AND EDUCATIONALLY SUPERVISED ASSIGNMENTS AT AN APPROVED SITE WITH AN EXPERIENCED PROFESSIONAL, IS AIMED AT PROVIDING A MEANS TO IDENTIFY AND TO APPLY A VARIETY OF THEORIES AND SKILLS DISCUSSED AND DEMONSTRATED IN THE CLASSROOM TO THE REAL LIFE EXPERIENCES TO WHICH THE STUDENT IS ASSIGNED IN THE FIELD UNDER PROFESSIONAL SUPERVISION. THE ASSIGNMENTS AND CHOICE OF SITE ARE DETERMINED BY THE DIRECTOR OF THE PROGRAM AND THE PROGRAM REQUIREMENTS AND CAREER GOALS OF THE STUDENTS.

IDM 2010	PATHOGEN BIOLOGY	Credit(s): 02.0
Prerequisite(s): PUBHLT 2015 or IDM student		
THE GOAL OF THIS COURSE IS TO TEACH THE BASIC BIOLOGY AND PATHOGENESIS OF MANY OF THE MOST IMPORTANT INFECTIOUS DISEASES THAT ARE PUBLIC HEALTH CHALLENGES IN THE 21ST CENTURY. IT IS INTENDED FOR STUDENTS WITH A BACKGROUND IN BIOLOGICAL SCIENCES, AND WILL REVIEW THOSE FEATURES THAT MAKE THESE PATHOGENS SO SUCCESSFUL AS AGENTS OF DISEASE. TOPICS COVERED WILL INCLUDE: THE INTERACTION BETWEEN THE PATHOGEN AND THE HOST GENOME, THE STRATEGIES USED BY EACH PATHOGEN TO EVADE THE HOST RESPONSE, AND THE WAYS IN WHICH THE PATHOGEN DEFENDS ITSELF AGAINST TREATMENTS AND VACCINES. THE COURSE WILL BE TAUGHT USING A COMBINATION OF DIDACTIC LECTURES AND PAPER DISCUSSIONS BASED ON THE CURRENT PRIMARY RESEARCH LITERATURE. (Note: For IDM students; and students without a background in biological sciences, but who have taken the core course PUBHLT 2015, are also welcome to take the course.)		
IDM 2014	FNCT GENOMCS OF MICRBL PATHGNS	Credit(s): 03.0
Prerequisite(s): IDM 2001		
FUNCTIONAL GENOMICS INVOLVES THE SYSTEMATIC STUDY OF GENES AND THEIR FUNCTION. THIS COURSE WILL INTRODUCE MANY OF THESE INNOVATIVE TECHNOLOGIES FOR THE SYSTEMATIC ANALYSIS OF GENE FUNCTION INCLUDING GENE DISCOVERY, TRANSCRIPTOME ANALYSIS, RANDOM AND TARGETED GENE DISRUPTION STRATEGIES, PROTEOMICS, METABOLOMICS, AND INTEGRATIVE SYSTEMS APPROACHES WITH A PARTICULAR EMPHASIS ON THEIR APPLICATION TO INFECTIOUS DISEASE PATHOGENS AND THEIR INTERACTION WITH THEIR HOST CELLS. WE WILL ALSO EXAMINE THE GENOMES OF WELL-STUDIED PATHOGENS AND EXPLORE HOW THESE TECHNOLOGIES HAVE BEEN USED TO STUDY THEIR BIOLOGY AND PATHOGENESIS AND THE APPLICATION OF THESE TECHNIQUES FOR DRUG AND VACCINE TARGETING AND DEVELOPMENT.		
IDM 2021	SPECIAL STUDIES IN MICROBIOLOGY	Credit(s): 01.0 to 15.0
PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE SPECIAL STUDY, EXPERIENCE IN A CLINICAL LABORATORY, OR RESEARCH WITH THE APPROVAL AND UNDER THE GUIDANCE OF A MEMBER OF THE FACULTY. PART OR ALL OF SUCH STUDY MAY BE USED AS THE BASIS FOR THE ESSAY OR DISSERTATION REQUIREMENT FOR THE MASTER'S AND DOCTORAL DEGREES.		
IDM 2022	SPECIAL TOPICS	Credit(s): 01.0 to 03.0
PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE SPECIAL STUDY UNDER GUIDANCE OF A FACULTY MEMBER TO ACQUIRE KNOWLEDGE AND SKILL TO USE INDEPENDENTLY A SPECIFIC LABORATORY RESEARCH TOOL, E.G., GENE CLONING, DNA SEQUENCING, CELL SORTING, OLIGONUCLEOTIDE SYNTHESIZER, POLYMERASE CHAIN REACTION, STATISTICAL ANALYSIS WITH PC.		
IDM 2023	MICROBIOLOGY LABORATORY	Credit(s): 02.0
A SERIES OF LABORATORY EXERCISES INTRODUCES THE STUDENT TO MICROBIOLOGICAL PROCEDURES, ESPECIALLY AS THEY APPLY TO VIROLOGY AND BACTERIOLOGY.		
IDM 2025	MICROBIOLOGY SEMINAR	Credit(s): 01.0
IN THIS COURSE STUDENTS ARE GOING TO PRESENT SCIENTIFIC JOURNAL ARTICLES DEALING WITH VIROLOGY, IMMUNOLOGY, MOLECULAR BIOLOGY, EPIDEMIOLOGY AND DRUG THERAPY OF VIRAL DISEASES. IN ADDITION, STUDENTS WILL PRESENT SIMILAR ASPECTS OF BACTERIAL DISEASES. IN SOME SESSIONS STUDENTS MAY BE SHOWN VIDEO PRESENTATION OF DIAGNOSIS AND CLINICAL MANAGEMENT OF A PARTICULAR VIRAL OR BACTERIAL DISEASE.		
IDM 2032	HUMAN DIVERSITY & PUBLIC HEALTH	Credit(s): 02.0
THIS COURSE WILL PROVIDE A THEORETICAL FRAMEWORK FOR DESIGNING POLICY, RESEARCH, AND PROGRAMS FOR DIVERSE POPULATIONS. OPPORTUNITIES FOR EXPANDING UNDERSTANDING AND EXAMINING ATTITUDES ABOUT HUMAN DIVERSITY WILL BE PRESENTED. COMMUNITY ORGANIZING AND MARKETING METHODS RELATED TO PROGRAM DESIGN AND RECRUITING AND SUSTAINING VOLUNTEER OR PATIENT PARTICIPATION IN PROGRAMS WILL BE A MAJOR FOCUS OF THE COURSE.		
IDM 2034	CONTROL AND PREVENTN OF HIV/AIDS	Credit(s): 02.0
THIS GRADUATE LEVEL COURSE ON HIV DISEASE PREVENTION AND CONTROL IS AIMED AT PROVIDING AN IN-DEPTH STUDY OF THE HIV DISEASE. THE COURSE GOAL IS TO PROVIDE ADVANCED KNOWLEDGE BASE OF INFORMATION ON THE COMPLEX CLINICAL, PREVENTIVE, TREATMENT, AND POLICY ISSUES ON HIV/AIDS.		
IDM 2038	PREVN TRMNT CTRL GLBL INFEC DS	Credit(s): 03.0
THIS COURSE IS AIMED TO PREPARE THE STUDENT TO DEMONSTRATE KNOWLEDGE OF THE PREVENTION, TREATMENT, AND CONTROL OF INFECTIOUS DISEASES THROUGHOUT THE WORLD. STUDENTS WILL DEVELOP KNOWLEDGE IN THE PATHOGENESIS, TREATMENT, INDIVIDUAL, AND ENVIRONMENT INTERVENTION IN PREVENTION AND SPREAD OF INFECTIOUS DISEASES.		

IDM 2040 SCIENTIFIC COMMUNICATION**Credit(s): 01.0**

This course will include a 1-hour lecture with 50 minutes of discussion on topics including: Tools for presentations (e.g. Word, PowerPoint, Endnote, Photoshop, Illustrator), preparing and delivering poster and oral presentations, technical writing skills for scientific publications, writing grant applications, and preparing for writing graduate theses or essays. Assignments will include writing abstracts, designing posters, and a short oral presentation of their work. Satisfactory letter grades will be contingent upon participation in discussions, and completion of assignments and projects.

IDM 2161 METHODS INFECTIOUS DISEASES EPID**Credit(s): 01.0****Prerequisite(s): EPIDEM 2110**

COVERS IMPORTANT TOPICS IN INFECTIOUS DISEASES EPIDEMIOLOGY, INCLUDING PUBLIC HEALTH SURVEILLANCE, EMERGING INFECTIOUS DISEASES, THE ROLE OF INFECTIOUS DISEASES IN THE ETIOLOGY OF CHRONIC DISEASES, AND EPIDEMIOLOGIC STUDY DESIGNS AND LABORATORY METHODS USED IN INFECTIOUS DISEASES RESEARCH.

IDM 2420 EXPERIMENTAL VIROLOGY**Credit(s): 02.0**

THIS COURSE IS DESIGNED FOR GRADUATE STUDENTS TRAINING IN MOLECULAR VIROLOGY RESEARCH AND IS DESIGNED TO PROVIDE A MORE IN-DEPTH STUDY OF MOLECULAR VIROLOGY THROUGH A CRITICAL ANALYSIS BY THE STUDENT OF SEMINAL RESEARCH PUBLICATIONS IN VARIOUS VIRUS SYSTEMS. PAPER DISCUSSION FORMAT.

IDM 3010 RESEARCH AND DISSERTATION PHD**Credit(s): 01.0 to 15.0**

DISSERTATION CREDITS FOR QUALIFIED DOCTORAL STUDENTS IN THE DEPARTMENT OF INFECTIOUS DISEASES AND MICROBIOLOGY.

IDM 3440 VACCINES AND IMMUNITY**Credit(s): 02.0**

Vaccines are widely regarded as one of the major contributors to increased life expectancy. The purpose of this course is to (1) explore the history of vaccines; (2) underscore the successful role of current vaccines in the management of infectious diseases; (3) present strategies for a new generation of safe and effective molecular vaccines; and (4) discuss the ethical and economic realities of vaccine use and development.

[New course for spring 2017, Term 2174]

PUBHLT 2002 ESSAY-MMPH**Credit(s): 01.0 to 02.0**

THE ESSAY IS DESIGNED TO PROVIDE THE STUDENT WITH AN OPPORTUNITY TO INTEGRATE THE MAJOR COMPONENTS OF THE PUBLIC HEALTH LEARNING EXPERIENCE.

PUBHLT 2011 ESSENTIALS OF PUBLIC HEALTH**Credit(s): 03.0**

THE COURSE PROVIDES GSPH STUDENTS ENROLLED IN MS DEGREE PROGRAMS WITH AN INTRODUCTION AND OVERVIEW OF THE SCOPE AND HISTORY OF PUBLIC HEALTH, AS WELL AS CORE CONCEPTS IN PUBLIC HEALTH NOT COVERED IN THE CORE EPIDEMIOLOGY AND BIostatistic COURSES.

(Effect Spring 2012 this class is for ALL MHA, MS, PhD students.)

****Note:** For the MHA program, PUBHLT 2011 will replace the core courses of PUBHLT 2014, BCHS 2509, and EOH 2013 as the course fulfillment for this program in the fall of 2011. Please consult with your department about the specifics of this curriculum change, as some programs may begin this change earlier than required.

PUBHLT 2012 MMPH PUBLIC HEALTH ESSAY**Credit(s): 01.0**

THIS COURSE WILL SUPPORT MPH STUDENTS WHO ARE WRITING THE PUBLIC HEALTH ESSAY. NO MORE THAN TWO CREDITS OF THE ESSAY CLASSES MAY COUNT TOWARD THE MMPH DEGREE. THIS COURSE COUNTS AS ONE CREDIT TOWARD THE PUBLIC HEALTH ESSAY ALLOWANCE.

PUBHLT 2015 PUBLIC HEALTH BIOLOGY**Credit(s): 02.0**

THIS CORE COURSE WILL PROVIDE AN INTRODUCTION TO THE BIOLOGICAL FOUNDATIONS OF MANY SYSTEMS THAT ARE IMPORTANT IN PUBLIC HEALTH. THE MAJOR DETERMINANTS OF HUMAN DISEASE WILL BE CONSIDERED FROM AN INTEGRATED ECOLOGICAL PERSPECTIVE THAT BRINGS TOGETHER MOLECULAR AND POPULATION-BASED APPROACHES TO THE STUDY OF INFECTIOUS DISEASE (WITH PARTICULAR FOCUS ON HIV/AIDS, POLIO, EMERGING INFECTIONS, AND DISEASE OUTBREAKS FOLLOWING NATURAL DISASTERS) AND GENETICALLY-DETERMINED DISEASES (INCLUDING "SIMPLE" GENETIC DISEASES SUCH AS CYSTIC FIBROSIS AND "COMPLEX" DISEASES SUCH AS HYPERTENSION). THE HOST RESPONSE TO INFECTION WILL BE CONSIDERED, AS WILL THE DISORDERS THAT RESULT FROM DEFECTS IN THIS SYSTEM, INCLUDING ALLERGY AND ASTHMA. CURRENT DEVELOPMENTS IN GENOMIC SCIENCE WILL BE COVERED, INCLUDING THE ETHICAL, LEGAL AND SOCIAL IMPLICATIONS OF THE INCREASED CAPABILITY TO DETECT AND PREDICT DISEASE OUTCOME IN INDIVIDUALS AND POPULATIONS. ON COMPLETION OF THIS COURSE, STUDENTS WILL HAVE AN UNDERSTANDING OF THE BIOLOGICAL BASES OF MANY CONDITIONS THAT ARE IMPORTANT TO PUBLIC HEALTH, AND THAT THEY WILL ENCOUNTER AS PUBLIC HEALTH STUDENTS AND PRACTITIONERS.

(This course replaces the GSPH core course IDM 2011 for new MPH, MHA, and DrPH GSPH students.)

PUBHLT 2018 OVERVIEW LGBT HLTH DISPARITIES**Credit(s): 02.0****Prerequisite(s): EPIDEM 2110**

STUDENTS WILL REVIEW THE HISTORICAL DEVELOPMENT OF LGBT HEALTH FOCUS AREA. THE IMPACT OF STIGMA AND DISPARITY ON THE HEALTH OF POPULATIONS WILL BE EXPLORED. AN OVERVIEW, BY SYSTEMS, OF CONDITIONS OF GREATER PREVALENCE AMONG LGB AND/OR T POPULATIONS WILL BE PRESENTED AND DISCUSSED. STUDENTS WILL DEVELOP A GREATER UNDERSTANDING OF THE HEALTH DISPARITIES AMONG LGBT POPULATIONS AND DEVELOP CRITICAL THINKING SKILLS REGARDING THE IMPACT OF MARGINALIZATION ON THE HEALTH AND WELLBEING OF SUBPOPULATIONS, USING LGBT POPULATIONS AS A MODEL. COURSE WILL INCLUDE LECTURES AND ACTIVE PARTICIPATION IN CLASS DISCUSSIONS.

This course will serve as the introductory overview course for the LGBT Health and Wellness Certificate Program.

PUBHLT 2019 PUBLIC HEALTH SPECIAL STUDIES**Credit(s): 01.0 to 15.0**

PROPERLY QUALIFIED STUDENTS MAY UNDERTAKE ADVANCE STUDY UNDER THE GUIDANCE OF A FACULTY MEMBER. (Primarily for use by certificate and Multidisciplinary MPH students, but may also be used in special circumstances by others.)

PUBHLT 2020 ADVNCD TOPICS IN LGBT RESEARCH**Credit(s): 03.0****Prerequisite(s): Pubhlt 2018**

THIS COURSE WILL PROVIDE A CRITICAL OVERVIEW OF CURRENT CUTTING EDGE RESEARCH TOPICS IN THE FIELD OF LESBIAN, GAY, BISEXUAL AND TRANSGENDER (LGBT) HEALTH. STUDENTS WILL BE EXPECTED TO REVIEW THE EXISTING LITERATURE ON THESE TOPICS, SUMMARIZE THE STRENGTHS AND WEAKNESSES OF INDIVIDUAL PAPERS, AND THEN DESIGN A STUDY OR SET OF STUDIES THAT WOULD BE EXPECTED TO ADD TO THE EVIDENCE BASE ON A GIVEN HEALTH TOPIC. Course for LGBT Health and Wellness Certificate Program.

PUBHLT 2022 THE DEAN'S PH GRAND ROUNDS**Credit(s): 0.0**

THE PURPOSE OF THIS COURSE IS TO SOCIALIZE OUR STUDENTS TO THE BROADER PROFESSION OF PUBLIC HEALTH THROUGH ENGAGING THEM IN SUBSTANTIVE PROGRAMS ON A WIDE RANGE OF TOPICS THAT REFLECT THE BREADTH OF PUBLIC HEALTH. THIS COURSE WILL ENABLE THEM TO INTERACT WITH RESEARCHERS AND PRACTITIONERS FROM OTHER SETTINGS AND UNIVERSITIES AROUND THE WORLD. THE COURSE WILL HELP TO BUILD THEIR CAPACITY TO WORK IN INTERDISCIPLINARY TEAMS TO ADDRESS CHALLENGING AND COMPLEX PUBLIC HEALTH PROBLEMS. THIS COURSE REQUIRES THAT ALL GSPH STUDENTS (WITH THE EXCEPTIONS NOTED BELOW) PARTICIPATE IN GSPH SPONSORED LECTURES, SYMPOSIUMS, AND OTHER EVENTS, OUTSIDE OF THE CLASSROOM, DURING THE FIRST FALL AND SPRING TERMS FOR WHICH THEY ARE ENROLLED AND IN RESIDENCE IN PITTSBURGH. TWO TERMS ARE REQUIRED FOR GRADUATION. JOINT DEGREE STUDENTS, CERTIFICATE ONLY STUDENTS AND NON-DEGREE STUDENTS ARE EXEMPT FROM THIS REQUIREMENT. EVENTS QUALIFYING FOR GRAND ROUNDS WILL BE POSTED ON THE BLACKBOARD COURSE SITE.

PUBHLT 2024 GLOBAL HEALTH SEMINAR**Credit(s): 01.0**

THIS COURSE EXPLORES THE FIELD OF GLOBAL HEALTH, INCLUDING THE ROLES AND AGENDAS OF KEY ACTORS; ETHICAL AND HUMAN RIGHTS ASPECTS OF GLOBAL HEALTH DISPARITIES AND RESEARCH AND SERVICE PROGRAMS DESIGNED TO ADDRESS THESE DISPARITIES; SOCIO-CULTURAL CONSIDERATIONS FOR GLOBAL HEALTH RESEARCH AND SERVICE PROGRAMS; AND THE REWARDS AND CHALLENGES OF WORKING IN A RESOURCE-POOR SETTING OR WITH AN UNDERSERVED POPULATION. STUDENTS WILL ALSO BE EXPOSED TO RESOURCES FOR INTERNSHIPS, FIELD PLACEMENTS, AND CAREER OPPORTUNITIES IN GLOBAL HEALTH. HEALTH AND SAFETY ISSUES R/T WORKING ABROAD WILL ALSO BE COVERED.

(Open to 1st YEAR Students who are enrolled in the GSPH Global Health Certificate or Peace Corps Master's International Track)

PUBHLT 2025 CONCEPTS/METHODS GLOBAL HEALTH**Credit(s): 02.0**

THIS COURSE IS DESIGNED FOR STUDENTS WHO PLAN TO WORK IN GLOBAL HEALTH AND IS REQUIRED FOR STUDENTS ENROLLED IN THE GSPH GLOBAL HEALTH CERTIFICATE AND PEACE CORPS MASTER'S INTERNATIONAL TRACKS. THE COURSE FOCUSES ON PUBLIC HEALTH IN LOW- AND MIDDLE-INCOME COUNTRIES AND ALSO COVERS ISSUES RELATED TO GLOBALIZATION. THE COURSE WILL PROVIDE STUDENTS WITH THE THEORETICAL KNOWLEDGE AND PRACTICAL SKILLS NEEDED TO 1) IDENTIFY, COLLECT AND INTERPRET HEALTH AND ECONOMIC DATA, 2) PRODUCE A REPORT ON PUBLIC HEALTH PRIORITIES AT THE COUNTRY LEVEL, AND 3) PROPOSE A COURSE OF ACTION (INCLUDING ACTIVITIES, PARTNERS, AND MEASUREABLE INDICATORS) FOR A PRIORITY HEALTH ISSUE.

PUBHLT 2026 GLOBAL HEALTH PRACTICUM**Credit(s): 01.0 to 03.0**

THE PRACTICUM PROVIDES AN OPPORTUNITY FOR CERTIFICATE STUDENTS TO INTEGRATE AND APPLY KNOWLEDGE IN GLOBAL HEALTH THROUGH A STRUCTURED, SUPERVISED FIELD EXPERIENCE. LEARNING OBJECTIVES, ASSIGNMENTS, AND SITE ARE BASED ON THE LEARNING NEEDS AND CAREER GOALS OF THE STUDENT AND DETERMINED IN CONSULTATION WITH THE CERTIFICATE DIRECTOR.

PUBHLT 2027 TRNSFRMING GLBL HLTH ED ACTN**Credit(s): 02.0****Prerequisite(s): PUBHLT 2025**

THIS COURSE IS A CAPSTONE EXPERIENCE FOR STUDENTS IN THE GLOBAL HEALTH CERTIFICATE. IT IS DESIGNED TO GIVE STUDENTS THE OPPORTUNITY TO APPLY WHAT THEY HAVE LEARNED IN THEIR TRAINING TO THE CHALLENGE OF REAL-WORLD PROBLEM-SOLVING IN COLLABORATION WITH INDIVIDUALS AND ORGANIZATIONS IN THE DEVELOPING WORLD. STUDENTS WILL FORM TWO TEAMS, AND EACH TEAM WILL COLLABORATE WITH EXPERTS FROM A DEVELOPING COUNTRY ON A SIGNIFICANT HEALTH ISSUE IN THAT COUNTRY. THE FINAL PRODUCT WILL BE A POLICY PAPER ANALYZING THE PROBLEM AND PROPOSING RELEVANT, TIMELY AND ACTIONABLE INTERVENTIONS. THIS COURSE IS DIFFERENT FROM TYPICAL COURSES THAT FOLLOW A PRESCRIBED SYLLABUS. IT IS A HANDS-ON EXPERIENCE, AND FOR THE MOST PART THE ACTIVITIES AND CONTENT OF EACH WEEK WILL BE DETERMINED AS THE COURSE GOES ALONG, AS STUDENTS, WORKING IN THEIR GROUPS, PURSUE THE BACKGROUND RESEARCH, CONSULTATION, AND BRAINSTORMING NECESSARY TO PRODUCE THEIR POLICY PAPERS. ACCORDINGLY THERE IS A GREAT EMPHASIS ON INDEPENDENT WORK (IN TEAMS), SELF-MOTIVATION, AND ACTIVE LEARNING.

[Effective 2016, spring 2164: removed pre-requisite of PUBHLT 2024.]

PUBHLT 2028 PEACE CORPS MASTRS INT'L INSHP**Credit(s): 00.0**

THIS COURSE IS RESTRICTED TO STUDENTS IN THE GRADUATE SCHOOL OF PUBLIC HEALTH PEACE CORPS MASTERS INTERNATIONAL TRACK AND IS TO BE USED BY STUDENTS DURING THE PEACE CORPS FIELD EXPERIENCE PORTION OF THE PCMI PROGRAM.

PUBHLT 2029 MMPH PRACTICUM**Credit(s): 01.00 to 03.0**

THIS COURSE IS DESIGNED TO BUILD AND EXPAND UPON THE EXPERIENCE OF THE INDIVIDUAL STUDENT IN THE MMPH PROGRAM. THE PRACTICUM WILL BLEND THE STUDENTS EXISTING CLINICAL AND/OR PROFESSIONAL WORK WITH ADDITIONAL PRACTICAL EXPERIENCE WITH A MAJOR PUBLIC HEALTH FOCUS.

PUBHLT 2030 RESEARCH ETHICS**Credit(s): 01.0**

THIS COURSE PROVIDES AN INTRODUCTION TO TOPICS IN RESEARCH ETHICS AND THE RESPONSIBLE CONDUCT OF RESEARCH PARTICULARLY PERTINENT TO BASIC AND NON-CLINICAL, POPULATION-BASED RESEARCH EMPLOYING A VARIETY OF METHODS. STUDENTS WILL LEARN KEY CONCEPTS AND METHODS OF ETHICAL REASONING AND REQUIREMENTS OF HUMAN SUBJECTS' PROTECTION AND NONHUMAN ANIMAL RESEARCH, AND WILL ANALYZE HISTORICAL AND CONTEMPORARY EXAMPLES OF RESEARCH MISCONDUCT, AS WELL AS ETHICAL CONCERNS ARISING IN THEIR OWN WORK. USING LECTURE AND SMALL GROUP DISCUSSION OF ASSIGNED READINGS AND PARTICIPANTS' RESEARCH, THE COURSE WILL DEVELOP STUDENTS' SKILLS REQUISITE TO DESIGN AND CONDUCT ETHICAL RESEARCH, AVOID RESEARCH MISCONDUCT, AND ETHICALLY NEGOTIATE THE TASKS AND MILESTONES OF ACADEMIC EDUCATION AND CAREERS (E.G., ISSUES OF MENTORSHIP AND PUBLICATION). STUDENTS WILL BE EVALUATED (BY LETTER GRADE) ON THE BASIS OF THE QUALITY OF THEIR DISCUSSION CONTRIBUTIONS AND QUIZ/EXAM RESPONSES.

PUBHLT 2031 TECHNQS FOR PROF WRITING**Credit(s): 01.0**

This course offers practical experience in a variety of writing styles encountered by professionals. The focus is on communication with general professional and lay audiences rather than on scientific or academic writing. You will learn to recognize communication issues and challenges, understand how they may be addressed in writing, and improve your ability to write effectively within your profession. This course is intended for students who are native and/or confident English writers.

[New course for fall 2016, term 2171.]

PUBHLT 2032 HC IN SUB-SAHARAN AFRICA**Credit(s): 02.0**

This course provides an in-depth look at health services and healthcare systems in Sub-Saharan Africa. Students will explore the WHO health systems building blocks consisting of leadership/governance, health care financing, health workforce, medical products, information technology and service delivery. Students will also examine health systems databases to assess performance and to better understand the challenges to attain high quality care at low cost, enhanced patient experience and improved outcomes. A variety of teaching modalities will be employed throughout the course including lecture, news headlines, case studies, class discussion, audio-visuals and student presentations. Guest speakers will be invited to share experience and expertise on various topics. A research paper with in-depth exploration of one of the six building blocks in a specific sub-Saharan country is required in addition to a global health case competition group presentation. Course enrollment is capped at 20. This course is a graduate-level course that is open to undergraduates.

[New course effective spring 2018, term 2184.]

PUBHLT 2033 FOUNDATIONS IN PUBLIC HEALTH**Credit(s): 01.0**

This one-credit course is required during the first term for incoming MPH students and is aimed at introducing students to core foundational concepts of public health and providing them with an overview of notable PITT Public Health and Pittsburgh based successes. The course was designed so that students can learn on their own and at their own pace. Course content is divided into seven on-line modules containing brief video lecture and case example segments and organized in a recommended (though not required) sequencing. Students will be allowed seven weeks to progress through the content and assessments. The course will conclude with a mandatory meeting at the middle of the term (approximately week 8). A resource list of relevant PITT Public Health courses will be included in each module in order to encourage additional exploration of the topics.

[New course effective fall 2018, term 2191. Required for all Public Health MPH plans.]

PUBHLT 2034 PUBLIC HEALTH COMMUNICATIONS**Credit(s): 02.0**

This course provides hands-on training in the principles and practice of effective communication. The emphasis is on the types of communication used by public health professionals. Students will briefly cover fundamental principles of communication theory, learn to critically analyze examples of communication, and then have the opportunity to practice applying those principles to a wide variety of different types of communication, including health promotion, routine business communication, and scientific communication. Multiple media types will be discussed, including print, web, and video.

[New course effective fall 2018, term 2191. Required for all Public Health MPH students.]

PUBHLT 2035 APPLICATIONS IN PUBLIC HEALTH**Credit(s): 02.0**

Prerequisite(s): EPIDEM 2110 and (BIOST 2011 or 2041) and PUBHLT 2015 and PUBHLT 2022 and BCHS 2509 and EOH 2013 and HPM 2001 and PUBHLT 2033 and PUBHLT 2034

This is the final course in the public health core curriculum. Students will apply a problem solving methodology to analyze current public health issues. Working in interdisciplinary groups in the classroom, students will develop and assess interventions to address specific problems.

[New course effective fall 2018, term 2191. Required for all Public Health MPH plans.]

PUBHLT 3000 INTRO TO TRANSL RES HLTH SCI**Credit(s): 02.0**

Course will provide students with a comprehensive survey of the processes involved in translating research discoveries into practices that promote health and prevent disease. The specific topics to be covered include five goals: 1) Introduce students to the NIH roadmap and to discuss the conceptual framework for multidisciplinary and interdisciplinary research. 2) Provide perspectives on objectives outlined at the national level in healthy people 2010/2020 and at the global level by organizations such as the world health organization. 3) Provide an understanding of the models of translational research. 4) Introduce students to the methods of clinical and translational research. 5) Interpret and explain the drug and therapeutic development process. Also, topics include the implementation of new therapies as standards of care and the application of innovative preventive services. Various research methodologies, including those encompassed in the drug development process will be discussed. Course will offer lectures via electronic media and will use a collaborative learning approach to classroom activities.

[Combined with CLRES 3140, DENT 3111, HRS 3140, NUR 3056, PHARM 3140.

Students must be enrolled in a professional degree program or graduate degree program in one of the Schools of Health Science.]
