

Master of Health Administration (MHA)

Akamai University

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06 June 2017

*The ultimate goal of primary health care is better health for all.
World Health Organization (2008) identified five key elements to achieving that goal:*

*Universal coverage reforms - reducing exclusion and social disparities in health
Service delivery reforms - organizing health services around people's needs
Public policy reforms - integrating health into all sectors
Leadership reforms - pursuing collaborative models of policy dialogue
And increasing stakeholder participation.*



In past decades, the world has made great progress toward global health. Life expectancy has increased in certain parts of the world by 30-40 years in the 20th Century with deadly diseases like smallpox being totally eradicated. Nevertheless, certain diseases like cancer, HIV/AIDS, tobacco addiction, cardiovascular diseases, obesity, and malnutrition are still grave challenges facing health professionals in the 21st century.

On a global scale, nearly half the world population (2.8 billion people) live on less than \$2 a day and over a billion have entered this century without having benefited from health revolution of 20th century. There is clearly a growing need to reduce the burden of disease and the mortality and morbidity suffered by the poor. There is a need to counter threats resulting from economic crises, an unhealthy environment and risky behavior. There is a need

to develop more effective healthcare systems and to invest in the expanding knowledge base that made possible the health revolution of the 20th century.

To contribute toward overcoming these challenges, Akamai University has established the Center for Global Health and Wellness, which is committed to the development of professionals who can address the health challenges of 21st century and play leadership roles in improving the human condition throughout the world. We have a commitment to the furtherance of Health Administration and alternative healthcare with a global perspective. I encourage you to join us in achieving this worthy mission.

Arif Hussain Shah, Ph.D.
Program Director

PROGRAM AUDIENCE

The study of human health has been one of the principal endeavors of higher education since its inception. Today, the practical study of the healing arts involves a wide range of disciplines, experiences, and theoretical frameworks. The studies offered through the Akamai University

Master of Health Administration (MHA)

Master of Health Administration (MPH) Program can help students prepare for numerous career fields including health research, health administration, health safety management, occupational and industrial hygiene, environmental health, hospital administration, disease prevention and control, international health, health policy, and community health education.

ENTRY REQUIREMENTS

As prerequisites for acceptance to the MHA program, applicants should have completed the equivalent of a recognized baccalaureate degree in an appropriate field of study and have several years of meaningful career experience. Applicants are expected to be proficient in collegiate English language skills have access to a computer, email and the Internet and academic library resources for the full extent of their program.

It is assumed that students applying to this program have a background in the physical or biological sciences and are familiar with standard theories and practices associated with scientific investigation. It is also assumed that students seeking admissions to this program will have demonstrated professional experience and expertise in health studies with some professional or academic experience in either laboratory or field research or applied issues.

DEGREE REQUIREMENTS

Students in the Master of Health Administration Program will complete a minimum of 40 credits above the baccalaureate level including the comprehensive examinations and thesis project. The coursework requirements include the core academic studies, a major concentration, and research preparation coursework. MHA students complete a comprehensive examination at the conclusion of the academic coursework; they prepare a formal thesis proposal, complete the thesis project, and prepare the manuscript for faculty review. Master's students also complete an oral review of the thesis project at the conclusion of the physical manuscript review. The program requirements are summarized as follows:

- Core Academic Studies (18 credits minimum)
- Major Concentration (9 credits minimum)
- Research Preparation (3 credits)
- EXM 880: Comprehensive Examination (2 credits)
- RES 885: Thesis Proposal (2 credits)
- RES 890: Thesis Project (4 credits)
- EXM 895: Oral Review of Thesis (2 credits)

Core Academic Studies

Participants complete core elements of study comprised 18 credits, selected from those below:

Required (18 credits): Selected from among the classes listed below

HAP 501: Principles of Epidemiology (3 credits)

HAP 502: Health Administration Policies and Practices (3 credits)

HAP 503: Environmental Health and Disease Prevention (3 credits)

HAP 504: Disease Prevention and Management (3 credits)

HAP 505: Recognizing and Preventing Occupational Diseases (3 credits)

HAP 506: Practicum in Health Administration

Major Concentrations

Participants complete a major concentration comprised of nine credits of specialized studies selected from one the following fields of inquiry:

Health Administration

Health Safety Management

Health Policy and Management

Environmental Health

Disease Prevention and Control

Applied Health Science

Community Health Education

Required (9 credits): Selected from one of the concentrations, as outlined below

Health Administration

HAP 510: Special Readings in Health Administration (3 credits)

PLUS the an additional 6 credits from the following classes:

HAP 521: Leadership in Healthcare Organizations (3 credits)

HAP 522: Health Care Budgeting and Finance (3 credits)

HAP 523: Legal Aspects of Health Administration (3 credits)

Health Safety Management

HAP 510: Special Readings in Health Administration (3 credits)

PLUS an additional 6 credits from the following classes:

HAP 531: Health Administration Surveillance (3 credits)

HAP 532: Healthcare Safety Management (3 credits)

HAP 533: Industrial Hygiene and Infection Control in Healthcare Facilities (3 credits)

Health Policy and Management

HAP 510: Special Readings in Health Administration (3 credits)

PLUS an additional 6 credits from the following classes:

HAP 541: Introduction to Health Policy (3 credits)

HAP 553: Codes and Standards in Healthcare (3 credits)

HAP 543: Continuous Quality Improvement in Health Care (3 credits)

Environmental Health

HAP 510: Special Readings in Health Administration (3 credits)

PLUS an additional 6 credits from the following classes:

HAP 551: Environmental Protection Policies (3 credits)

HAP 552: Occupational Safety Management(3 credits)

HAP 553: Codes and Standards in Healthcare (3 credits)

Disease Prevention and Control

HAP 510: Special Readings in Health Administration (3 credits)

PLUS the an additional 6 credits from the following classes:

HAP 561: Disease Prevention and Human Nutrition (3 credits)

HAP 562: Introduction to Pathophysiology

HAP 563: General Principles in Toxicology (3 credits)

Applied Health Science

HAP 510: Special Readings in Health Administration (3 credits)

PLUS the an additional 6 credits from the following classes:

HAP 561: Disease Prevention and Human Nutrition (3 credits)

HAP 572: Health Science Principles (3 credits)

HAP 573: Health Promotion (3 credits)

Community Health Education

HAP 510: Special Readings in Health Administration (3 credits)

PLUS the an additional 6 credits from the following classes:

HAP 581: Quality Assurance in Healthcare Facilities (3 credits)

HAP 573: Health Promotion (3 credits)

HAP 561: Disease Prevention and Human Nutrition (3 credits)

Research Preparation (Required: 3 credits minimum)

Master's students must pursue studies providing advanced research knowledge necessary for success in their final projects (thesis or major project in lieu of thesis). At least three semester credits of research preparation coursework is required and this might focus upon quantitative and qualitative methods or participatory action research techniques including subject selection, research design, and statistical analysis, as appropriate to each student's proposed project.

Through this requirement, students learn to effectively define applied problems or theoretical issues and articulate the rationale for the study. They should learn to present an effective scholarly review of the academic literature and implement quantitative, qualitative or participatory action methods for evaluating academic issues.

Required: Minimum of three credits selected from among the following:

RES 504: Introductory Research Statistics (3 credits)

RES 506: Advanced Research Statistics (3 credits)

RES 508: Qualitative Research (3 credits)

RES 510: Participatory Action Research (3 credits)

RES 512: Effective Data Analysis (3 credits)

RES 520: Social Science Research Methods (3 credits)

RES 525: Biostatistics in Healthcare (3 credits)

Comprehensive Examination (Required: 2 credits)

Once students have completed the coursework elements of their degree, they will be asked to schedule the Comprehensive Examination. The primary mentor and a faculty member representing the secondary academic area conduct both the written and oral components of the examination. The written portion is open book style with selected essay questions requiring creative responses that reach for the higher levels of cognition. Your answers are expected to draw from both the primary and secondary competencies of your program with proper referencing of the scholarly literature. The oral component of the examination is normally completed by telephone conference and is intended to allow detailed investigation of your written responses.

Required: EXM 880: Comprehensive Examination (Required: 2 credits)

Thesis Proposal (Required: 2 credits)

You are expected to prepare a formal proposal related to your concept for research under the direction of your primary faculty advisor and according to University expectations. At a minimum, your research proposal should clarify the thesis statement and methodology (including the data gathering instruments and data analysis techniques) and provide an effective overview of the scholarly literature that sets the foundation for the thesis. Your research proposal should also include a brief manuscript outline that demonstrates how you will present in written form the various elements of the research project.

Required: RES 885: Thesis Proposal (Required: 2 credits)

Thesis Project (Required: 4 credits)

Following approval of your thesis proposal, you will begin your research project. Your thesis may take the form of a traditional research project or it may be a major scholarly project of the type appropriate to the discipline. Whichever approach to the thesis is chosen, the resulting project must demonstrate mastery of a body of knowledge in the major field of study, be your original work and represent a meaningful contribution to the betterment of the human condition or an improvement to the professional field.

Your thesis research may be conducted via quantitative, qualitative, or participatory action research. The body of your thesis manuscript, structured according to a set of approved manuscript guidelines, should exceed 75 double spaced, typewritten pages. If your thesis takes the form of a scholarly project, it must follow the guidelines provided by the University for such projects.

Required: RES 890: Thesis Project (Required: 4 credits)

Oral Review of Thesis (Required: 2 credits)

Once you have prepared the thesis manuscript, you will be asked to schedule the formal review process. Your primary faculty advisor and a faculty member representing the secondary academic area will conduct both the formal physical review of the thesis manuscript and the oral review of thesis.

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The physical review of the thesis manuscript usually takes the review committee four to six weeks. Each reviewer will prepare questions and commentary relative to your underlying review of the literature, the thesis methodology, the mechanics of your project, and your presentation of the findings, conclusions and recommendations.

The Oral Review of Thesis is conducted under the direction of your primary faculty advisor with the assistance of one qualified member of the faculty. The examination is carried out by telephone conference call and is designed to allow detailed investigation of your thesis. The faculty reviewers explore with you issues related to your thesis including methodology, review of literature and interpretation of the findings.

One outcome of the thesis review process is a set of final expectations directing you through the remaining tasks for completing the thesis manuscript. Once your final manuscript is approved, you will submit the formal document to an approved bindery and later ship the bound thesis to the University for permanent archival storage.

Required: EXM 895: Oral Review of Thesis (Required: 2 credits)

PROGRAM FACULTY

Arif Hussain Shah, Ph.D.
Program Director

Stanley Krippner, Ph.D.
Energy Medicine

Mary Jo Bulbrook, Ed.D.
Complementary and Alternative Medicine

Stephen Lentz, Ph.D.
Environmental Health

Christopher Johannes, Ph.D.
Complementary and Alternative Medicine
and Integral Health Studies

Anthony R. Maranto, Ph.D.
Environmental Health

Michael J. Cohen, Ed.D.
Ecotherapy

Jim Morningstar
Behavioral Medicine, Health Education and
Promotion

Mansoor Quli Khan, MBBS, Ph.D., MD
Health Administration, Disease Prevention,
Applied Health Science

Anthony Payne, N.M.D., Ph.D., MD(HC)
Ayurveda, Chinese Medicine, Herbal
Medicine

Stephen Cox, MPA
Behavioral Medicine, Health Education and
Promotion

Seamus Phan, Ph.D.
Complementary Healthcare

Vijay P Gupta, Ph.D., DFM, MBBS
Applied Health Science and Toxicology

Henry Zeidan, Ph.D.
Applied Health Science

The Thesis Committee

Formation of Thesis Committee

Master's students have a Thesis Committee of two qualified graduate faculty appointed to oversee and govern the student's program structure, progress of studies, comprehensive examinations and thesis project.

Responsibilities of Thesis Committee

The responsibilities of the Thesis Committee, under the leadership of the Committee Chair, are as follows:

- Directing the preparation and approval of the student's plan for study, clarifying the timeline for study and the assignment of faculty to provide instruction and to assist with the functions of the Thesis Committee.
- Providing direction regarding the student's foundational studies, core studies, specialization, and research preparation coursework.
- Providing leadership by integrating appropriate research preparation coursework or assignments within the plan for study, distributing the coursework to appropriate faculty for instruction and advisement.
- Providing leadership for the written and oral components of the student's comprehensive final examination, in unity with the other Committee members
- Providing oversight, direction, and mentorship during the conduct of the student's research project and manuscript preparation, in unity with the other Committee members
- Providing leadership for the physical and oral reviews of the research manuscript, in unity with the other Committee members.
- Assist the student in making formal changes in the plan study and timeline for completion, by written addendum, as needed to assure effective progress throughout the program of study.
- Providing final approval for the student's Thesis and overall degree program and cooperate fully in building the appropriate archival records for the University of record.

Committee Appointment Schedule

- The Committee Chair is appointed immediately following the Master's student's registration and continues in charge of the student's program until final completion is recorded at the school of record. While the secondary and tertiary members of the Thesis Committee are identified and confirmed at the onset of the program, and listed in the plan of study, they become active later, just prior to the activities for which they are asked to participate.
- The Secondary Committee Member becomes active one month prior to the commencing the written component of the Comprehensive Examination and continues with the student's program until final completion is recorded at the school of record.

Building the Student's Plan for Study

Immediately following registration, Master's students begin work with their assigned Committee Chair in structuring their formal plan for study. The process determines and formalizes the elements of the student's Master's program and the timeline for completion. The plan for study includes the following essential elements:

- The designation of the degree major for the Study Plan
- The identification of the school contacts and contact information for the schools participating in the delivery of the Master's program.
- Identification of the required array of coursework for each element of the program.
- Identification of the secondary and tertiary members of the Thesis Committee.
- Appointment and notification of the course module instructors
- Acceptance of transfer courses for the student's program.
- The timeline for completion of the degree program.

These activities require active participation in program planning by the student and may take considerable time to complete the dialogue and exchange of information. Students are strongly advised to discuss in detail the elements in the plan for study including the coursework, the examinations, and elements of research including the manuscript guidelines.

Once all of the decisions have been made concerning the plan for study, the student and Committee Chair sign the formal document. Copies of the document are sent to the University headquarters for entry to the permanent student record. The plan for study is then distributed to the participating schools and becomes the document that determines effective progress toward the degree. When the expectations laid out in the plan for study have been successfully accomplished, the student is recommended for the degree by the Committee Chair. Students are alerted that the University can make no commitment to inclusion of course modules and assignment of instructors to a student program until after the plan for study has been fully processed and approved.

COURSE MODULE DESCRIPTIONS

Core Academic Studies

HAP 501: Principles of Epidemiology (3 credits)

The course gives students an exposure to basic concepts and principles of epidemiology. Students will learn how to find distribution of disease in populations, determine the causes of disease in the populations, and possible use of interventions, if any. The course provides analytical skills towards evaluation and control of epidemics and other health problems in populations. The course develops in general epidemiological approach to finding disease and initiating intervention.

HAP 502: Health Administration Policies and Practices (3 credits)

This is an overview course pertaining to Health Administration practice. There are certain Health Administration issues (i.e. operational, policy, management, legal, regulatory), which Health Administration practitioners face on a daily basis. This course examines those issues and more.

Local, state, and federal, agencies are involved in Health Administration. The practitioner needs to know how to coordinate the activities of these agencies. Then there is the element of health marketing and Health Administration advocacy, which comes into play in terms of convincing and changing public opinions about some Health Administration issues. The issue of cost, access, and quality of care is always there. The uninsured and underinsured, ethnic groups health care, minority health care are issues of concern as well. The course will give an overview of the field of health policy and management. It will examine some of the major health policy issues like, cost, access, quality of care, underinsured, uninsured. Then it will examine the politics of health policy in the United States. How different interest groups (i.e. providers, insurers, managed care organizations) play their role in the development of health policies. The main focus of the course will be on health policy issues in the United States although certain international health issues facing other countries will also be examined.

HAP 503: Disease Prevention and Management (3 credits)

This course is a guide to clinical preventive services. The course critically examines evidence for and against scores of preventive services available, and recommends interventions that are effective. The course looks into the health consequences of personal behavior (including the use of drugs, alcohol, tobacco, poor diet, lack of physical activity, for example), and recommends services available to correct such behavior. The course recommends preventive interventions (screening, immunizations, counseling) for clinical and Health Administration practitioners. This course is beneficial to primary care clinicians, including physicians, nurses, nurse practitioners, physician assistants, Health Administration professional and allied health professionals.

HAP 504: Environmental Health and Disease Prevention (3 credits)

The course deals with different environments including personal, indoor, outdoor, community, region, or worldwide. It develops a correlation between effects and impacts of these environments and discusses their long-term and short-term effects on individuals and populations. The course covers a wide range of topics including, occupational hazards, radioactive and hazardous waste, ionizing radiation, unhealthy food-water, environmental pollution, pest control, industrial waste, risk assessment, environmental monitoring, natural and man made disasters. It discusses environmental health problems and how to prevent diseases caused by them. The course also deals with basic scientific principles involved in environmental health. IT examines multiple of issues affecting human health by physical, chemical, biological, or psycho-social modifications of external environment. Some policy issues for environmental protection will also be discussed.

HAP 505: Recognizing and Preventing Occupational Diseases (3 credits)

Besides knowing about occupational hygiene and occupational disorders, occupational health specialists need to learn about preventive strategies, economics, ergonomics, and production systems. In recent times, the safe and healthy work environment has become an integral part of quality assurance. The course relies upon preventive and social approaches to occupational health. It deals with toxicological modeling in industrial hygiene, the epidemiological approach to study occupational disorders, the importance of psychological conditions for many types of disorder, and specialist knowledge about women and work. It gives an overview of the necessity for an increased awareness of a safe work environment.

HAP 506: Practicum in Health Administration (3 credits)

Graduate students investigate core aspects of the discipline within the professional health administration environment through close contact with practitioners and real world situations. Students may pursue the health administration practicum through a supervised practice, apprenticeship, professional practice, advanced field study or other external exploration under the direction of a qualified faculty member and an approved field site sponsor. Graduate students participate in the field study for a minimum of 45-50 contact hours. The field placement is expected to afford students appropriate practical hands on experience and in-depth knowledge of their professions. Students complete a daily journal and prepare a scholarly paper summarizing their findings for the field study.

HAP 510: Special Readings in Health Administration (3 credits)

Graduate students pursue detailed readings in the theories, principles and practices in health administration, as related to their major concentration. Readings in the field of health administration include general health administration, health safety, healthy policy, international health, environmental health, disease prevention and control, applied health science, toxicology, and community health education. Students may also select studies in the related fields of bioethics in healthcare, managed care, child health, international health, healthcare for the elderly, mental hygiene, population dynamics, reproductive health in developing countries, and study of aging.

Major Concentrations

HAP521: Leadership in Healthcare Organizations (3 credits)

This course defines leadership, addresses its importance in modern healthcare and presents the essential qualities, which characterize the effective leader. Suggestions for applying these principles in "real world" management are included.

HAP 522: Health Care Budgeting and Finance (3 credits)

This course presents concepts and theories of healthcare finance, teaching analysis of hospital financial statements and financial planning. Also addressed is effective budgeting and departmental/organizational forecasting. This course includes a discussion of healthcare finance and emphasizes practical aspects of budgeting for department managers, VPs and CEOs.

HAP 523: Legal Aspects of Health Administration (3 credits)

This course is designed for non-attorney health professionals to acquire working knowledge of law and legal system in the United States. The course describes health related statutory laws, rules, regulations, and guidelines which health managers need to know to manage health care facility. The course specifically deals with tort law, criminal aspects of health care, contracts and antitrust laws, corporate liability, nursing and law, professional liability, information management and health care, patient consent, legal reporting obligations, patients rights and responsibilities, malpractice insurance, end of life issues, issues of procreation, and others.

HAP 531: Health Administration Surveillance (3 credits)

Health Administration Surveillance is essential to disease prevention. It can recognize new diseases and identify upward or downward trends in known diseases. The course differentiates surveillance from Health Administration practice or analytical epidemiological studies; and gives a methodological overview of the subject. The course discusses surveillance systems used in evaluating program effectiveness. It also presents examples of surveillance. Finally, the course deals with disease surveillance at local and state levels, and surveillance techniques used in developing countries.

HAP 532: Healthcare Safety Management (3 credits)

Healthcare institutions must have safety management for employees, visitors, volunteers and their patients. Unsafe acts, equipment failures, fire hazards and other dangerous conditions such as radiation and electrical hazards may have serious consequences that make safety a high priority. Students will explore safety issues related X-rays and radioisotope, lasers and microwaves, and equipment which may cause microshock, macroshock and electromagnetic interference. Through reading texts and discussion with safety personnel, a paper will be developed describing the various safety hazards in a healthcare facility and the controls used.

HAP 533: Industrial Hygiene and Infection Control in Healthcare Facilities (3 credits)

Study of recognition methods, evaluation techniques and control of environmental hazards, which may effect the employee's health and efficiency. The study will be accomplished from reading texts and journal articles and discussion with industrial hygienists. In addition, students will investigate issues of infection control in healthcare facilities. Infection is a unique hazard for the healthcare industry. With the advent of AIDS and the increasing occurrence of TB, infection control has become important to employees as well as patients. Through reading texts and journal articles, a paper will be written describing the causes and routes of infection and control measures. Solutions to problems in industrial hygiene and infection control will be developed from case studies.

HAP 541: Introduction to Health Policy (3 credits)

The course will discuss major health policy issues facing health care systems in both public and private sector. The main focus of the course will be the health policy issues in the United States, but also will present health policy issues in international scene as well. The course will survey the evolution of different health care systems, the interest groups, the source of their financing, the quality of care, and access to care under those systems.

HAP 553: Codes and Standards in Healthcare (3 credits)

A study of the building codes, fire codes, healthcare codes and standards that are applicable to healthcare facilities. This will be tailored to the country of the student, but will involve comparison of codes and standards in other countries. The applicable codes and standards in the student's country will be reviewed and interpreted to apply to a healthcare facility. A comprehensive report will be written.

HAP 543: Continuous Quality Improvement in Health Care (3 credits)

Total Quality Management/Continuous Quality Improvement has come to light as a paradigm shift for quality assurance in the industrial world during 1970s. The fundamental principles used

to improve and maintain quality of a "product," in the industrial/consumer world has direct parallelism in health care industry as well. The high quality health care delivery (the product), encompasses many ingredients like planning, organizing, and leading continuous quality improvement, involving clinicians, information systems, diagnostic laboratories, Health Administration organizations, academic health centers, community health centers, patient outcomes, provider/patient satisfaction, management decision making, and economic analysis, etc., all this involve interdisciplinary approach. The course uses the concepts from operations management, organizational behavior theory, health services research, and translates into health continuous quality improvement in health care delivery.

HAP 551: Environmental Protection Policies (3 credits)

The course deals with air pollution policy, water pollution policy, hazardous waste disposal policy, toxic substance policy, and monitoring enforcement of compliance with regulations. It evaluates the overall effectiveness of environmental regulations, and identifies trends likely to influence future environmental policy. Finally, the course examines the reality of the international concerns of global warming, for example, and ozone depletion.

HAP 552: Occupational Safety Management (3 credits)

The course is based on the premise that "machines do not cause accidents, people do." One needs to change human behavior to bring about safety in the work place. It requires a change of culture and team effort. This class examines the procedures and guidelines necessary for effective occupational safety.

HAP 553: Codes and Standards in Healthcare (3 credits)

A study of the building codes, fire codes, healthcare codes and standards that are applicable to healthcare facilities. This will be tailored to the country of the student, but will involve comparison of codes and standards in other countries. The applicable codes and standards in the student's country will be reviewed and interpreted to apply to a healthcare facility. A comprehensive report will be written.

HAP561: Disease Prevention and Human Nutrition (3 credits)

The course deals with applying nutritional science to Health Administration and disease prevention issues, including assessing community needs for nutritional services, reaching out to those at high risk, help develop community and state nutritional policies, serving women, infant and children, promoting the health of the adults. It also discusses providing nutritional services in primary care, planning and evaluating nutritional services, marketing nutritional programs and services, providing nutritional education, helping change eating habits for good nutrition, and safeguarding food supply. The course deals with various aspects of nutrition, including: foundations of community nutrition, nutrition policy and health care reform, food borne illnesses, nutrition for pre-schoolers, nutrition for school-age children, adults and their nutrition needs, primary prevention of diseases, secondary and tertiary prevention of diseases, i.e. coronary heart disease, cancer, diabetes mellitus, hypertension, obesity, osteoporosis, alcoholism, arthritis, and renal disease. The course gives up to date knowledge about nutrition and disease prevention.

HAP 562: Introduction to Pathophysiology (3 credits)

Emphasizes concepts from the biological sciences and nursing science in an examination of pathophysiologic principles and common pathological conditions. Regulatory and compensatory mechanisms as they relate to commonly occurring diseases are examined. Cellular biology, anatomy, genes and gene-environment interactions, mechanisms of self-defense, cellular proliferation, and pathophysiologic alterations related to organs and body systems are included. The focus is on pathological conditions across the life span

HAP 563: General Principles in Toxicology (3 credits)

The course begins with the history and scope of toxicology. It then goes into general principles of toxicology, including absorption, distribution, and excretion of toxicants, bio-transformation of toxicants, chemical carcinogenesis, genetic toxicology and teratogens. The course then leads to systemic toxicology, including toxic responses of toxins to blood, immune system, liver, kidney, respiratory system, nervous system, heart and vascular system, skin, reproductive system, and the eye. Lastly, course deals with the toxic effect of various toxic agents. The toxic agents discussed are pesticides, metals, solvents and vapors, radiation and radioactive materials, animal toxins, and plant toxins. The course also touches on environmental toxicology.

HAP 572: Health Science Principles (3 credits)

The course deals with certain basic concepts and principles, which form the basis of health sciences. The scientific principles relate to general biotechnology, therapeutic biotechnology, chemotherapy, structure/activity relationship, pharmaceuticals, enzymology of disease and therapy, genetics and gene-therapy, hormones and hormone-therapy, principles of diagnostic technology, nutrition, biochemistry of nutrition, receptors and pharmacological actions.

HAP 581: Quality Assurance in Healthcare Facilities (3 credits)

A study of how ISO 9000 can be applied to assure quality facility management and quality healthcare. Quality improvement can improve the facility management and reduce costs. A report will be prepared to show a healthcare facility could become ISO 9000 registered. The report will be based on a real institution.

Research Preparation

RES 504: Introductory Research Statistics (3 credits)

This course covers the basic statistical concepts, theory and methods in statistical research. Topics include variables, graphs, frequency distributions, measures of central tendency, measures of dispersion, probability theory, binomial, normal and Poisson distributions, statistical sampling theory, and statistical decision theory.

RES 506: Advanced Research Statistics (3 credits)

This course covers parametric and nonparametric hypothesis testing. Topics include sampling theory, Chi-square test, least squares regression, correlation theory, non-linear regression, analysis of variance, Student's t-test, and various methods in nonparametric analyses.

RES 508: Qualitative Research (3 credits)

This course provides detailed study of qualitative research methods. Topics survey historical and theoretical foundations of qualitative research, explore major qualitative research strategies, and

build an understanding of the art and science of collecting, analyzing, and interpreting qualitative information. The course provides background on qualitative research, the politics and ethics of qualitative inquiry, and the major paradigms that inform and influence qualitative research.

RES 510: Participatory Action Research (3 credits)

This course provides the foundational principles of participatory action research. Topics survey theoretical foundations of action research, the methodology and applications of PAR in contemporary culture. Students assess the rigor and usefulness of participatory action research.

RES 512: Effective Data Analysis (3 credits)

This course examines modern scientific data analysis including the elements of effectiveness in study design, data gathering, processing of statistics and interpretation of findings.

RES 520: Social Science Research Methods (3 credits)

This course examines essential issues in social science research. Topics include assessment of data gathering techniques using selected case studies from journal articles. Students learn to measure attitudes and performance, use tests in data gathering, contrast and compare uses of statistical and qualitative methods, and evaluate focus group research

RES 525: Biostatistics in Healthcare (3 credits)

The course deals with basic concepts of biostatistics. Students will learn statistical skills for collecting, organizing, analyzing, evaluating, and interpreting data. The first part of the course deals with descriptive statistics, graphical and tabular presentations, and group comparisons, leading to finding among other things, burden of disease in populations and association of risk factors and disease. The second part of the course deals with probability theory, statistical inferences, and hypothesis testing.

Finishing Activities

EXM 880: Comprehensive Examination (2 credits)

Masters students complete this comprehensive examination as a required element of their academic program, prior to undertaking the thesis. The examination usually includes both written and oral components and is confined to the programs of studies completed by the student.

RES 885: Thesis Proposal (2 credits)

This course is required of all Masters students designed to guide them through the formal research proposal process for their final projects, including the development of the research methodology, data gathering device and data analysis techniques. Students also prepare annotated bibliographies of the major scholarly works underlying their project.

RES 890: Thesis (4 credits)

This course governs the conduct of the thesis project for the Master's level student. The Master's thesis is the demonstration of the mastery of a body of knowledge in a given field and is presented in a manuscript usually 75 or more pages in length. The final project may take any of several forms, depending upon the field of study and the expectations of faculty. This may be quantitative or qualitative research, participatory action research, or a major project

demonstrating excellence. Master's students may re-enroll for this course for no-credit, as needed.

EXM 895: Oral Review of Thesis (2 credits)

This examination is an oral review of the Master's thesis conducted by the graduate committee immediately following their reading of the thesis manuscript.

