

MD/MPH

dual degree program

**UMDNJ-Robert Wood Johnson Medical School
and
UMDNJ-School of Public Health**



M.D./M.P.H. DUAL DEGREE PROGRAM

UMDNJ-Robert Wood Johnson Medical School and UMDNJ-School of Public Health jointly offer a comprehensive curriculum leading to the M.D./M.P.H. (Master of Public Health). Students earn both the M.D. degree and the M.P.H. degree during the course of five-year medical school program. Application to this dual degree program is limited to students who already have been accepted to the medical school. A number of tuition scholarships are available for students completing the M.P.H. prior to graduation. Students may begin their M.P.H. studies before or after the first year of medical school.

The UMDNJ-School of Public Health is a nationally recognized, statewide partnership of educators, researchers and practitioners working to improve the health and well being of communities and populations. The UMDNJ-School of Public Health is sponsored by the University of Medicine and Dentistry of New Jersey in cooperation with Rutgers, The State University of New Jersey and New Jersey Institute of Technology and in collaboration with the Public Health Research Institute.

Today's health care issues are persuasive evidence for combining studies for both the M.D. and M.P.H. degrees. Training in public health provides a broad, contemporary perspective for future health care leaders, who must deal with such problems as medical care for the poor and uninsured, the AIDS epidemic, drug and alcohol abuse, air and water contaminants, and cost-effective use of health care technologies.

While physicians can make important contributions to the health of the community without special training in public health, the study of epidemiology, environmental health, behavioral sciences, family health sciences, and other public health fundamentals can significantly increase the impact of their work.

Public health training assists physicians in understanding the risks to which patients are exposed, while knowledge of sound administrative practices and up-to-date health education techniques increases the efficiency and effectiveness of care provided to individuals, families, and communities.

Career opportunities are broadened by combining studies for the M.D. and M.P.H. degrees. The combination is considered an important asset in the route to leadership as a health care policymaker, administrator, researcher, or educator.

The M.P.H. degree provides students with a clear understanding of the roles of the core disciplines in public health. It also provides students with sufficient knowledge of the theory and terminology used by these disciplines to allow effective participation in interdisciplinary public health efforts and with specialized skills in at least one public health discipline. Your area of specialization should play an important role in your choice of Division.

M. P.H. DEGREE REQUIREMENTS

The Master of Public Health degree program requires 45 credit hours.

MASTER OF PUBLIC HEALTH DEGREE REQUIREMENTS

Area Credit Hours	
Core Courses	15
Specialty Divisions	12-24
Electives	5-15
Fieldwork/Thesis	6
Total	45

CORE COURSES

All students must take the following core public health courses: Health Education and Behavioral Science in Public Health; Health Systems and Policy; Introduction to Biostatistics; Introduction to Environmental Health; and Principles and Methods of Epidemiology. Some of the Public Health course work will substitute for medical school courses, such as:

- 1) Epidemiology and Biostatistics may be substituted by Principles of Epidemiology **And** Introduction to Biostatistics and Biocomputing.
- 2) Environmental and Community Medicine I may be substituted by Health Systems and Policy **Or** Health Education.
- 3) Environmental and Community Medicine II may be substituted by Introduction to Environmental Health.

HEALTH SYSTEMS AND POLICY

Against the background of changes in population health, this course introduces the history, organization, financing and regulation of medical and public health services in the United States. Special emphasis is placed on the social and behavioral factors that shape health, inequalities in health and health services. A central theme in this course is the tension between the need for health care organizations to position themselves for success in the changing economic environment and the basic public health principles of access, equity, quality care, health promotion and prevention.

PRINCIPLES AND METHODS OF EPIDEMIOLOGY

This course introduces students to the study of disease and ill health through their patterns of occurrence in human populations. The approaches of epidemiology in estimating the burden of disease, in making inferences about cause of disease, and in evaluating primary, secondary and tertiary prevention strategies are presented.

INTRODUCTION TO ENVIRONMENTAL HEALTH

This course explores the way in which particular characteristics of our environment impinge upon health. The course examines health problems associated with chemical, physical, and biological agents, how they impact food safety, infectious disease, air quality, water quality and land resources in community and occupational settings. Policies intended to improve public health through mitigation of environmental impacts will be reviewed.

INTRODUCTION TO BIOSTATISTICS

An introduction to biostatistical concepts and methods commonly encountered by public health professionals. Students are also expected to complete several computer-based exercises for this course.

HEALTH EDUCATION AND BEHAVIORAL SCIENCE IN PUBLIC HEALTH

The overall goal of this course is to introduce the M.P.H. student to learning and behavioral science principles, theories and practices that provide the framework for the practice of health education. Students will be introduced to health education in a public health context, will be required to perform tasks frequently requested of health educators and will be introduced to nationally endorsed competencies of certified health education specialists.

FIELDWORK

Fieldwork is a carefully planned and supervised learning experience that is required of all Masters degree candidates. A fieldwork site is chosen based on its educational and career networking potential for the student. Students are required to complete and present a final fieldwork report.

Biometrics Division

ABOUT BIOMETRICS

Biometrics is a discipline that combines statistics, mathematics, computing, and other quantitative methods and applies these topics to problems in the life and health sciences in both theory and practice.

The goal of this division is to provide students with statistical knowledge and skills that are necessary to undertake meaningful teaching, research, and service roles in the biomedical and public health sector.

REQUIRED DIVISION COURSES (12 Credits)

- Biocomputing I
- Regression Methods for Public Health Studies or Regression Analysis
- Categorical Data Analysis
- Advanced Multivariate Methods

ELECTIVES (12 Credits)

- Theory of Statistics I or Probability theory, distribution theory
- Theory of Statistics II or Theory of mathematical inference
- Modeling Binary Response Data
- Biocomputing II
- Clinical Trials: Design and Analysis of Medical Experiments
- Biostatistics for Environmental and Occupational Health
- Advanced Topics in Biostatistics
- Basic Statistics for Research
- Basic Applied Statistics
- Biostatistics I
- Design of Experiments
- Nonparametric Statistics

Environmental and Occupational Health

ABOUT ENVIRONMENTAL AND OCCUPATIONAL HEALTH

The adverse health impacts of environmental pollution are the number one public policy issue in New Jersey. The public, private, and academic sectors are all striving to improve our ability to understand and protect our environments, and to protect them. Accordingly, the primary goal of this division is to train qualified professionals with expertise in environmental and occupational health. The unifying feature lies in the identification of hazards, the recognition of at risk populations, and the prevention of exposure. Many kinds of toxic agents are encountered both in the community and in the workplace, but there are significant differences in the circumstances and magnitude of exposure. Many kinds of toxic agents are encountered both in the community and in the workplace, but there are significant differences in the circumstances and magnitude of exposure and, therefore, on the strategies used for controlling exposure and preventing disease.

REQUIRED COURSES: OCCUPATIONAL HEALTH EMPHASIS (15 Credits)

- Environmental and Occupational Toxicology
- Environmental and Occupational Epidemiology
- Environmental Risk Assessment
- Advanced Principles of Occupational Health
- Principles of Industrial Hygiene or Principles of Industrial Hygiene

REQUIRED COURSES: ENVIRONMENTAL HEALTH EMPHASIS (15-16 Credits)

- Introduction to Environmental Law
- Environmental and Occupational Toxicology
- Environmental and Occupational Epidemiology
- Environmental Risk Assessment
- Principles of Industrial Hygiene or Principles of Industrial Hygiene
- General Ecology or Ecological Risk Assessment

Epidemiology Division

ABOUT EPIDEMIOLOGY

Epidemiology has been defined as the study of the distribution and determinants of disease prevalence in man. Epidemiological studies are essential in identifying effective public health interventions and in providing data needed for setting priorities in the field.

This Division formally recognizes the close nexus between epidemiology, quantitative methods and computing. The goals of the Division are to provide students with epidemiological and computing skills that will allow them to undertake meaningful research in the public health sector. Specifically, graduates of the Division should be able to assist or lead in studies that describe the distribution of disease in time and place, identify determinants of disease, and perform quantitative evaluation of intervention programs.

REQUIRED COURSES (15 Credits)

- Biocomputing I
- Design of Experiments or Regression Analysis, Regression Methods for Public Health Studies
- Environmental and Occupational Epidemiology or Epidemiology of Chronic Diseases
- Advanced Multivariate Methods
- Epidemiological Research Methods

ELECTIVES (9 Credits)

- Modeling Binary Response Data
- Clinical Trials: Design and Analysis of Medical Experiments
- Nonparametric Statistics
- Interpretation of Data I, II
- Infectious Disease Epidemiology
- Disease Clusters: Science and Policy
- Reading/Research Topics in Epidemiology
- Seminar in Survival Analysis
- Classic Papers in Epidemiology
- Survey Research Methods
- Introduction to Outcomes Research
- Health Services Research and Evaluation

Health Education and Behavioral Science Division

ABOUT HEALTH EDUCATION AND BEHAVIORAL SCIENCE

The educational process has been identified as a principal method for achieving national health objectives. The role of the well-prepared health educator is essential to facilitating individuals and groups, altering lifestyles, improving the environment, controlling infectious diseases, and appropriately utilizing available health care services. Substantial benefits can best be achieved when initiatives are guided by persons possessing the competencies required to design, implement and evaluate educational programs.

REQUIRED COURSES (15 Credits)

- Health Education Planning and Evaluation
- Modifying Health Behaviors: Theory and Practice
- Methodologies and Materials in Health Education
- Survey Research Methods
- Management Techniques in Health Administration

ELECTIVES (9 Credits)

- Distance Learning
- Public Health Grant Writing
- Public Health Advocacy
- Research Topics In Health Education
- Seminar in Health Education Topics
- Group Dynamics/Interpersonal Communication
- Community Organization and Coalition Building
- Health Communications/Risk Communication
- Human Development Through the Life Cycle
- Principles of Staff Training and Development
- Immigration, Urban Policy and Public Health
- Independent Study in Research Methods

Health Systems and Policy Division (HSAP)

ABOUT HEALTH SYSTEMS AND POLICY

The primary goal of the Health Systems and Policy Division is to provide students with an understanding of current health care policies and the historical context of the organization, financing and regulation of health care in the United States. The Division is designed to build upon the skills of health care professionals and others with interests in health care delivery, program planning and evaluation, and health care policy. Those students selecting a concentration in Health Systems and Policy have the opportunity for more intensive educational experience through fieldwork placements in specified areas of interest. Required Division courses provide students with the information, knowledge, tools and skills necessary to participate in various facets of health policy development and assessment, and in program evaluation and health care management within public health, community and institutional health care settings. The Division attracts primarily working health care professionals (physicians, nurses and allied health personnel, health officers and government employees) and builds upon their existing understanding of how the health care system operates. The Division offers courses that are directed at improving students' evaluative, analytic, and decision-making skills for the purpose of career development or Doctoral level studies.

REQUIRED COURSES: (15 CREDITS)

- Managing Health Care Delivery Organizations
- Health Care Economics
- Health Care Ethics and Law
- Health Services Research And Evaluation
- Health Care Policy

RECOMMENDED ELECTIVES: (9 CREDITS)

- Advanced Multivariate Methods for Environmental and Health Issues
- Survey Research Methods
- Community Organization and Coalition Building
- Seminar: Problems in Health and Social Policy
- Introduction to Outcomes Research
- Management Techniques in Health Administration
- Overview of Managed Care
- Health Care Policy Making
- Economic Employee Relations
- Human Resource Administration
- Organizational Behavior
- Pharmacoeconomics
- Decision Making for Public Policy
- Accounting for Managers
- Research Design for Public Policy
- Financial Management

Quantitative Health Care Assessment: A Cross-Division Option

This new emphasis is a hybrid between Epidemiology and the Health Systems and Policy Division. It focuses on health care outcomes and can be accessed either through the Health Systems and Policy Division or through the Epidemiology Division. Dr. Stephen Marcella serves as the advisor for students following this curriculum.

REQUIRED COURSES: (12 CREDITS)

- Introduction to Outcomes Research
- Health Care Economics
- Overview of Managed Care
- Or-
- Health Care Policy
- Pharmacoeconomics

RECOMMENDED ELECTIVES: (12 CREDITS)

- Regression Analysis
- Or-
- Regression Methods for Health Studies
- Or-
- Survey Research Methods
- Infectious Disease Epidemiology
- Or-
- Epidemiology of Chronic Diseases
- Or-
- Clinical Trials: Design and Analysis of Medical Experiments
- Epidemiological Research Methods
- Advanced Multivariate Methods for Environmental Health Issues

For additional information, please contact:

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