MASTER OF SCIENCE IN THE FIELD OF EPIDEMIOLOGY

Program Director S.D. Cleary

The Department of Epidemiology and Biostatistics offers the degree of Master of Science in Epidemiology. The goals of the M.S. degree are to prepare students for careers in industry or academia and for continued study in a doctoral program. The program includes course work that focuses on theoretical and applied epidemiological and statistical methods. Comprehensive examinations are required.

If desired, a student may apply for admission to the Ph.D. degree program prior to completing the M.S. degree, in which case no more than 24 credits from the M.S. degree may be applied to the Ph.D. course work requirements. In this instance, the student will be required to take a minimum of 27 additional credits of course work. The distribution of these courses between epidemiology and statistics will depend on the nature of the Master’s degree and whether the transferred credits will be used to defray epidemiology and statistics course work.

COMPETENCIES

At the completion of the MS program in Epidemiology students will be able to:

• Demonstrate proficiency in basic epidemiology concepts, e.g., formulate hypotheses and research aims, select appropriate study design, identify risk and/or protective factors that contribute to disease outcomes, develop analytic plans, and identify bias.
• Demonstrate competence using standard statistical software packages to manage and analyze primary data or conduct secondary data analyses to address research questions
• Demonstrate proficiency in data analysis and interpretation of results, including discussion of threats to internal validity, and compose a formal presentation or report
• Describe and apply methods to conduct sound ethical research

REQUIREMENTS

Prerequisite Requirements
(or equivalents to these GW courses)

The courses listed below (or equivalents) are prerequisites for admission consideration, and MUST appear on your transcript. Submit your MS Epidemiology program admission application only after you have completed all of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BISC 1111</td>
<td>Introductory Biology: Cells and Molecules</td>
</tr>
<tr>
<td>MATH 1231</td>
<td>Single-Variable Calculus I</td>
</tr>
<tr>
<td>MATH 1232</td>
<td>Single-Variable Calculus II</td>
</tr>
</tbody>
</table>

Additional Course Requirements

The courses listed below are “Additional Course Requirements.” Applicants lacking these courses (or equivalents to these GW courses) will be considered for admission, but, if admissible, will be admitted conditionally with the expectation that these courses will be satisfactorily completed within two semesters following matriculation in the program.

<table>
<thead>
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<tbody>
<tr>
<td>STAT 2183</td>
<td>Intermediate Stat Lab/Packages</td>
</tr>
<tr>
<td>or PUBH 6249</td>
<td>StatPackages/DataMgt&amp;DataAnlys</td>
</tr>
</tbody>
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Course Requirements

MS students who select the Epidemiology program enroll in Core Courses (22 credits) of which 16 credits are in Public Health and 6 credits are in Statistics as well as Electives (8 credits). Requirements also include three (3) consulting and thesis credits.

Program Requirements

Required public health core courses:

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>PUBH 6001</td>
<td>BiologicalConcepts/PublicHlth</td>
</tr>
<tr>
<td>PUBH 6002</td>
<td>Biostatistical Applic for PubH</td>
</tr>
<tr>
<td>PUBH 6003</td>
<td>Prin &amp; Practice/Epidemiology (basis for MS general comprehensive)</td>
</tr>
<tr>
<td>PUBH 6247</td>
<td>Design of Health Studies (basis for MS general comprehensive)</td>
</tr>
<tr>
<td>PUBH 6252</td>
<td>Advanced Epidemiology Methods (basis for MS general comprehensive)</td>
</tr>
<tr>
<td>PUBH 6299</td>
<td>Topics in Epi/Bio (credits vary per course- may take 1 or 2 courses)</td>
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Required statistics core courses:

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>STAT 4157 &amp; STAT 4158</td>
<td>Introduction to Mathematical Statistics I and Introduction to Mathematical Statistics I</td>
</tr>
</tbody>
</table>
STAT 6201 & STAT 6202 Mathematical Statistics I and Mathematical Statistics II (students interested in applying to the PhD program in epidemiology may register in STAT 6201 & STAT 6202 with advisor’s approval)

Approved elective courses:

8 credits from the following:

Approved public health courses:

PUBH 6004 Environmental and Occupational Health in a Sustainable World
PUBH 6007 Social & Behavior Appr-Pub. Hlth
PUBH 6121 Environmental and Occupational Epidemiology
PUBH 6123 Toxicology: Applications for Public Health Policy
PUBH 6124 Problem Solving in EOH
PUBH 6242 Clinical Epid & Decision Analysis
PUBH 6244 Cancer Epidemiology
PUBH 6243 Topics: Clinical Epid & Dec Analysis
PUBH 6245 Infectious Disease Epidemiology
PUBH 6250 Epidemiology of HIV/AIDS
PUBH 6260 Adv Data Analysis - Public Health
PUBH 6262 Intro-Geog Information Systems
PUBH 6283 Biostatistics Consulting Practicum
PUBH 6299 Topics in Epi/Bio

Approved statistics elective courses:

STAT 2118 Regression Analysis
STAT 4181 Applied Time Series Analysis
STAT 3187 Introduction to Sampling

Consulting and Thesis:

PUBH 6258 Adv Topics/Biostat Consulting
PUBH 6999 Master of Science Epidemiology Thesis

Graduation Requirements

1. Graduate Credit Requirement: 33 graduate credits are required

2. Comprehensive Exam: A written comprehensive exam will be administered based on the course content of PUBH 6003 Prin & Practice/ Epidemiology, PUBH 6247 Design of Health Studies, and PUBH 6252 Advanced Epidemiology Methods. The exam is administered upon completion of all courses.

3. Grade Point Requirements: A 3.0 (B average) overall grade point average is required.

4. Time Limit Requirement: The MS must be completed within 4 years