Biostatistics — M.S.

Program Directors
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The Master of Science (M.S.) degree in biostatistics is a two-year curriculum that emphasizes statistical methods, data analysis and computing; as well as some epidemiology methods. It is intended for health professionals and for other professionals who want to add biostatistics to their competencies. Another target group consists of persons with a quantitative background (engineering, mathematics, physics) who want to become statisticians. The M.S. degree in biostatistics also prepares students to pursue Ph.D. degrees in biostatistics and epidemiology. The degree trains persons for collaborative research endeavors across disciplines (health-care industry, insurance, and most other disciplines in which research and statistics are an integral part of the collaboration). A publishable format thesis is required. Students work with faculty as research associates during their training.

Learner outcomes
Upon completion of the M.S. degree curriculum in biostatistics, the graduate should be able to:

• Apply appropriate statistical theory and methods to the solution of applied statistical problems.
• Design and implement a research study, including formulating research questions, appropriate study designs, sample size, sampling scheme, data-collection methods, and analyses.
• Critically review literature relevant to statistical methods and interpretation of statistical findings, and identify strengths and weaknesses of design.
• Serve as statistical consultant and collaborator with health professionals on research projects, communicate the results of analyses, and write the statistical methods and results sections of a research paper.
• Select appropriate statistical methods to analyze data and establish and manage databases using current computer software (e.g., SAS, R, SPLUS, and SPSS).

Indicators of educational effectiveness
• Midterm and final examinations
• Thesis completion
• Written and oral presentation and defense of thesis
• Course evaluation

Prerequisite
• Calculus (one course)
• Linear algebra (one course)
• Probability and statistics (two courses)

Degree requirements

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<tr>
<th>Public Health</th>
<th>Major</th>
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<tbody>
<tr>
<td>PHCJ 605</td>
<td>Overview of Public Health</td>
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<tr>
<td>EPDM 509</td>
<td>Principles of Epidemiology</td>
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Non-course requirements

EPDM/STAT forums
During their program, students are required to attend a minimum of fifteen forums in Epidemiology, Biostatistics, and/or in the Adventist Health Study.

Culminating activity
The culminating activity includes a research thesis, with a written publishable paper and oral presentation; professional portfolio; and an exit interview with the program director.

Normal time to complete the program
1.66 years (6 academic quarters) based on full-time enrollment; part time permitted