Numbers support, communicate, and convince.

21st century numbers are different.

Energize your future with a Master in Applied Biostatistics.

MS in Applied Biostatistics
From the University of Miami
WHY A MASTER OF SCIENCE IN APPLIED BIOSTATISTICS

(Short answer: The time has never been better)

Demand outstrips supply
Did you know that Fortune Magazine rates having a Masters Biostatistician as the job with the second highest projected job growth (~24%) over the next 20 years? Demand for high quality Master’s level biostatisticians outstrips supply by a wide margin and is likely to do so for many years to come. The Bureau of Labor Statistics projects the job outlook for biostatistics at 13% growth from until 2018 alone.

What is Biostatistics?
Biostatistics interprets data produced in medicine, public health, biology and other health sciences (for instance, the biomedical sciences). Biostatisticians are experts in evaluating data as scientific evidence. Thanks to exponential advances, including in computational technology, biostatistics has emerged as key to important breakthroughs in a wide variety of scientific areas.

Who hires biostatisticians?
Two major employers outside the academic world that hire biostatisticians en masse are the pharmaceutical companies and government agencies. More generally, biostatisticians are also hired by the pharmaceutical industry, consulting companies, hospitals, and a variety of large companies that undertake industrial research. Indeed, all large businesses rely on statistics for marketing.
A 10-month program
The Master of Science (MS) in Applied Biostatistics provides a flexible curriculum to cover the basics. The 10-month Master’s program in Applied Biostatistics will be an applied program intended for people with appropriate backgrounds who are interested in applied statistical training and want to join the workforce after the graduation.

Emphasis on applications
The program emphasizes applications and understanding of statistical concepts rather than theoretical and mathematical principles. The program is meant to be a terminal degree providing students with necessary background for applying good biostatistical practices in real-world settings and ready to apply for exciting positions in academia, government, and industry as applied biostatistician or data scientists.

Variety of data settings
Students will gain practical skills that can be applied immediately to a variety of data settings, which includes, but is not limited to, the biological life sciences, public health, medical studies, and health services research.

Human Gene Atlas - Vertical axis corresponds to tissue type, horizontal axis is for genes (top 1000). Red points are genes up-regulated for a specific tissue relative to all other tissues; green points are genes down-regulated; blue points are non-significant genes. The large region of blue points on the right-hand side shows not much further structure can be found using more than 1000 genes. H. Ishwaran, J.S. Rao / Statistics and Probability Letters (2008), 78, 1490-1497.
Our diverse and dynamic interdisciplinary faculty are engaged in a broad range of novel theoretical and applied biostatistical methodologies including in the disciplines such as machine learning, genomics, bioinformatics and big data problems. There are numerous opportunities for engagement, training, and mentorship for students in these methods in collaboration with very diverse team of researchers across medical school.

Our national and international faculty have been awarded funding from National Institute of Health, National Cancer Institute, National Science Foundation, Patient-Centered Outcomes Research Institute and the State of Florida Department of Health.

Our faculty have expertise in developing statistical methods for a variety of complex problems ranging from modeling genomic data (and other so-called “big data problems”), to mixed models to predictive learning. Our research includes a number of areas of application in genomics from disease development, progression and screening to precision medicine (based on genomics) as it relates to health disparities. Our methods facilitate translational genomic research from bench to clinic. Our faculty have been developing a number of statistical software modules which are widely used around the world.
The degree consists of:

**33 Credits over 3 Semesters in 10 Months**

**Pre-requisites:**
- *Introductory calculus*
- *Introductory linear algebra*
- *Introductory computing*

**Fall Semester** *(13 credits)*
- Introduction to Probability Theory
- Introduction to Statistical Methods I
- Statistical Computing
- Introduction to Public Health
- Topics in Biostatistics Research

**Spring Semester** *(13 credits)*
- Introduction to Statistical Methods II
- Survival Analysis in Clinical Trials
- Statistical Principals for Clinical Trials
- Fundamentals of Epidemiology
- Topics in Biostatistics Research

**Summer Semester** *(7 credits)*
- Statistical Consulting
- Case Studies
How to Apply

The SOPHAS application for MS in Applied Biostatistics is open at sophas.org.

Please contact SOPHAS at sophasinfo@sophas.org if you have questions regarding their online application.

Should you have any questions about our programs, specific University of Miami application instructions or your complete SOPHAS application, please contact publichealthadmission@miami.edu or visit publichealth.med.miami.edu/graduate/sophas
Miami is one of America’s, and one of the world’s, most dynamic cities. It offers something for everyone: from the glamorous nightlife of South Beach, to the vibrancy of Little Havana. Miami is the gateway to the Americas and the Caribbean, with the opportunity to lead innovation for the hemisphere, co-creating solutions for communities near and far.

At University of Miami you’ll join a diverse and energized academic community. Engaged in more than 180 academic programs and majors, undergraduate and graduate students come from across the nation and around the world to pursue their passions and set a course for future success. A private research university with more than 16,000 students from around the world, the University of Miami is a vibrant and diverse academic community.
Contacts:

**Dr. Tulay Koru-Sengul**
Associate Professor
Director of MS in Applied Biostatistics

**Dr. J. Sunil Rao**
Professor
Director of Division of Biostatistics

**Mrs. Michele R. Gomez**
Graduate Programs Coordinator
Email: mgomez6@biostat.med.miami.edu
Phone: (305) 243-6312

Division of Biostatistics
Department of Public Health Sciences
University of Miami Miller School of Medicine
Don Soffer Clinical Research Center, 10th Floor
1120 NW 14th Street
Miami, Florida, 33136-2105

Learn more at: [www.biostat.med.miami.edu](http://www.biostat.med.miami.edu)