

# Graduate Education in Biomedical Sciences (GEBS)





## Overview

Morehouse School of Medicine (MSM), located in Atlanta, Ga., was founded in 1975 as the Medical Education Program at Morehouse College. In 1981, MSM became an independently chartered institution. MSM is among the nation's leading educators of primary care physicians and was recently recognized as the top institution among U.S. medical schools for our social mission. Our faculty and alumni are noted in their fields for excellence in teaching, research, and public policy.

MSM is accredited by the Accreditation Council for Continuing Medical Education, Accreditation Council for Graduate Medical Education, Council on Education for Public Health, Liaison Committee on Medical Education, and Southern Association of Colleges and Schools.

## Mission

We exist to:

- Improve the health and well-being of individuals and communities
- Increase the diversity of the health professional and scientific workforce
- Address primary health care through programs in education, research, and service  
*With emphasis on people of color and the underserved urban and rural populations in Georgia, the nation, and the world.*

## Vision

Leading the creation and advancement of health equity.



## Office of Graduate Education in Biomedical Sciences

The Division of Graduate Education in Biomedical Sciences (GEBS) offers programs of study leading to the MS in Biomedical Research (MSBR), MS in Biomedical Technology (MSBT), MS in Clinical Research (MSCR), MS in Medical Sciences (MSMS), MS in Neuroscience (MSNS), and PhD in Biomedical Sciences.

Students who graduate from the Morehouse School of Medicine's Division of Graduate Education in Biomedical Sciences will possess a deep understanding of biomedical science, will engage in scientific inquiry and research, and will apply content and research expertise to the advancement of biomedical disciplines. Program graduates will exhibit the skills necessary to effectively communicate knowledge and research outcomes to scientific peers and public stakeholders. Additionally, graduates will demonstrate a commitment to the application of biomedical science in the improvement of health disparities.

## The educational objectives common to all GEBS degree programs are to:

- 1 Promote** a deep and integrated understanding of the biological sciences and their implications to the advancement of health and biomedical science.
- 2 Strengthen** critical analysis and reasoning skills and the application of these skills to the design and execution of scientific inquiry relevant to specific biomedical disciplines.
- 3 Generate** and effectively communicate scientific knowledge relevant to specific biomedical disciplines.
- 4 Develop** a commitment to life-long learning and career pursuits within health and biomedical science disciplines.
- 5 Foster** a commitment to health equity.



# Ph.D. in Biomedical Sciences

# CURRICULUM

	July	Aug	Sept	Oct	Nov	Dec	Break	Jan	Feb	Mar	Apr	May	Jun
PhD 1	Graduate Biochemistry Lecture						Break	Biomedical Genetics Lecture				Core QE Exams	
	Graduate Biochemistry Lab							Biomedical Genetics Lab					
	Human Biology Lecture							Integrated Biomedical Sciences <i>Cancer, Neurosci., Cardiovasc., Infectious Disease</i>				6-Week Lab Rotations	
	Human Biology Lab							Critical Thinking & Scientific Communication II					
	Critical Thinking and Scientific Communication I												
	Scientific Integrity												
PhD 2	Research Data Analysis						Break	Preparing Fellowship Proposals					
	Electives							Electives					
	Seminar in Biomedical Sciences							Seminar in Biomedical Sciences					
	6-Week Lab Rotations			Supervised Research <i>(prior to candidacy)</i>				Supervised Research <i>(prior to candidacy)</i> or Dissertation Research <i>(after candidacy)</i>					
PhD 3-5	Seminar in Biomedical Sciences						Break	Seminar in Biomedical Sciences					
	Seminar Presentation							Seminar Presentation					
	Dissertation Research							Dissertation Research					

## Program Overview

The Ph.D. in Biomedical Sciences is designed to develop independent investigators with the potential to assume leadership roles in academic, government, and corporate biomedical research. It involves a core-didactic curriculum followed by extensive faculty-guided dissertation research directed toward contributing new discoveries that will advance the field in which the student is interested. The program provides a broad background in the basic biomedical sciences and advance training in specific fields pertinent to human health. Laboratory Rotations are a requirement of the core curriculum and provide students with an opportunity to explore various research areas in the biomedical sciences prior to committing to a specific research focus.

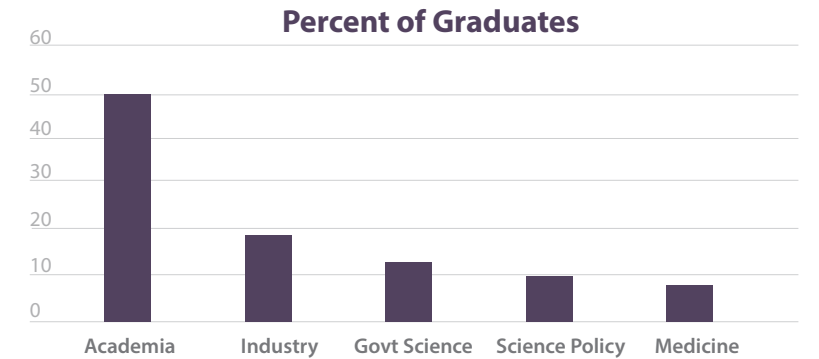
## Total Credit Hours

Program	Total Credit Hours Offered
Ph.D. Program in Biomedical Science	72

## Stipend Payment

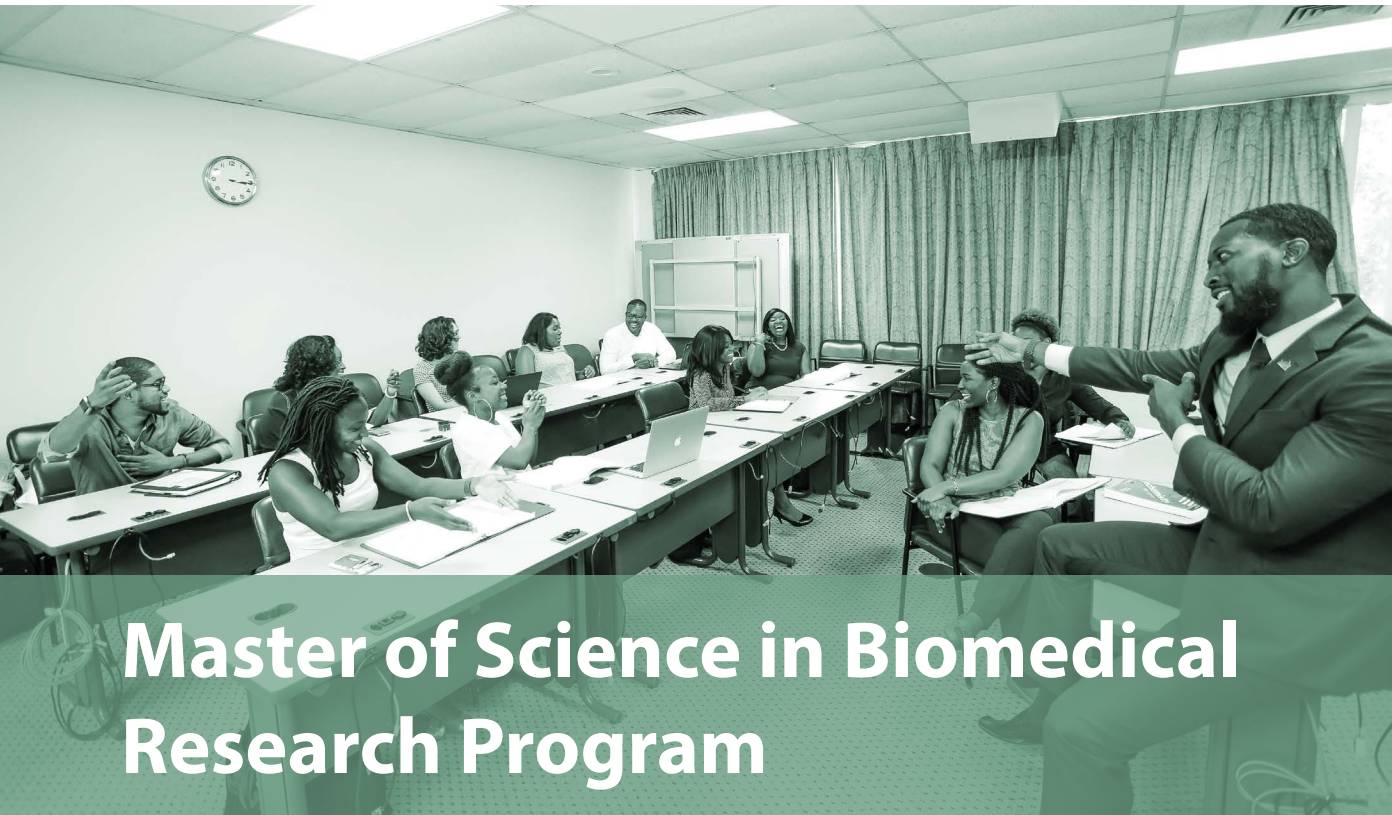
All students accepted into the Ph.D. in Biomedical Sciences program will receive a stipend to cover costs of living.

Graduates of the Ph.D. program at Morehouse School of Medicine enjoy careers in academia, government science, and medicine. Students graduating from the Ph.D. program are sought after by some of the nation's leading post-doctoral programs and companies.



## Tuition and Fees

All students accepted into the Ph.D. program will receive a full scholarship to cover the costs of tuition and basic fees. Tuition scholarships cover the full cost of tuition and the cost of a Morehouse School of Medicine issued laptop/tablet. It is mandatory for all students enrolled in graduate programs to have a laptop/tablet issued by Morehouse School of Medicine as a program requirement. Additionally, basic fees are covered and include health insurance (individual only). Vision and dental plans are offered at additional costs and are not covered by the Graduate Education in Biomedical Sciences' PhD program. If you enroll in either or both plans you will be responsible for payment.



# Master of Science in Biomedical Research Program

# CURRICULUM

	July	Aug	Sept	Oct	Nov	Dec	Break	Jan	Feb	Mar	Apr	May	Jun	
<b>MSBR 1</b>	Graduate Biochemistry Lecture							Break	Elective					
	Graduate Biochemistry Lab								Elective					
	Human Biology Lecture								Core QE Exams		4-Week Lab Rotations		Thesis Research	
	Human Biology Lab								Critical Thinking & Scientific Communication II					
	Critical Thinking & Scientific Communication I													
	Scientific Integrity													
<b>MSBR 2</b>	Research Data Analysis							Break	Seminar Presentation					
	Seminar in Biomedical Sciences								Seminar in Biomedical Sciences					
	Thesis Research								Thesis Research					

## Program Overview

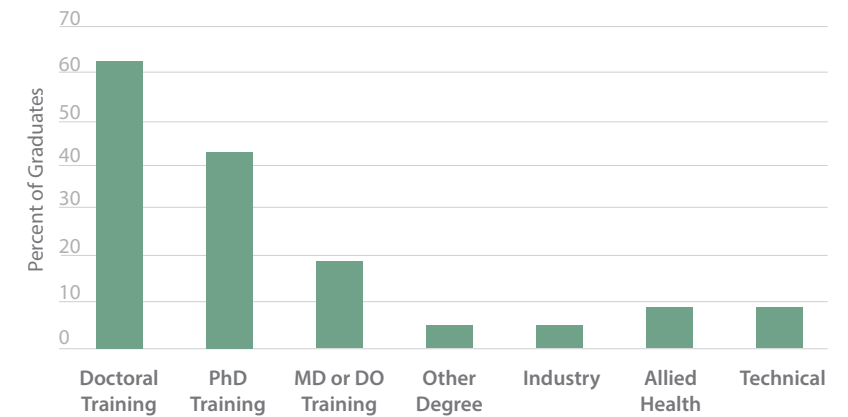
The MS in Biomedical Research (**MSBR**) program provides a core-didactic and thesis based curriculum for college graduates seeking a thesis-based Master's degree or considering the future pursuit of doctoral degrees in research or the health sciences. The program allows students to obtain a graduate degree; further explore career options in the biomedical sciences; document their ability to handle graduate-level coursework; and conduct a mentored research project in an area of interest to them. Some coursework completed for the MSBR program may be applicable toward the requirements for the PhD program at MSM if the student subsequently gains admission to that program.

## Total Credit Hours

Program	Total Credit Hours Offered
Master of Science in Biomedical Research (MSBR)	40

Students choose to train at MSM for their **MSBR/BT** programs because they realize that training in the biomedical sciences here opens a wealth of opportunities in the scientific workforce for our graduates. Students completing the **MSBR/BT** degree programs land jobs within industry and allied health settings. However, a majority of our students go on to pursue doctorates in basic sciences and medicine.

MSBR/BT - First Postgraduate Position (n=21)





# Master of Science in Biomedical Technology Program

## Program Overview

The Master of Science in Biomedical Technology (MSBT) program is a non-thesis degree program for college graduates preparing for, or already engaged in, biomedical technology careers. The classroom curriculum is similar to that of the thesis-based program. Beyond the classroom, students in this program will focus on gaining experience in developing and applying experimental design, as well as experiencing a variety of state-of-the-art biomedical research methods and instrumentation.

### Total Credit Hours

Program	Total Credit Hours Offered
Master of Science in Biomedical Technology (MSBT)	48

# CURRICULUM

	July	Aug	Sept	Oct	Nov	Dec	Break	Jan	Feb	Mar	Apr	May	Jun	
<b>MSBT 1</b>	Graduate Biochemistry Lecture							Break	Elective					Break
	Graduate Biochemistry Lab								Elective					
	Human Biology Lecture								Critical Thinking & Scientific Communication II					
	Human Biology Lab								Survey of Core Technology					
	Critical Thinking & Scientific Communication I								Core QE Exams		Technical Apprenticeship I			
	Scientific Integrity													
<b>MSBT 2</b>	Research Data Analysis							Break	Seminar Presentation					
	Seminar in Biomedical Sciences								Seminar in Biomedical Sciences					
	Technical Apprenticeship II		Technical Apprenticeship III		Technical Apprenticeship IV				Additional Technical Apprenticeships/Internship (if applicable)					



# Master of Science in Clinical Research Program

## Program Overview

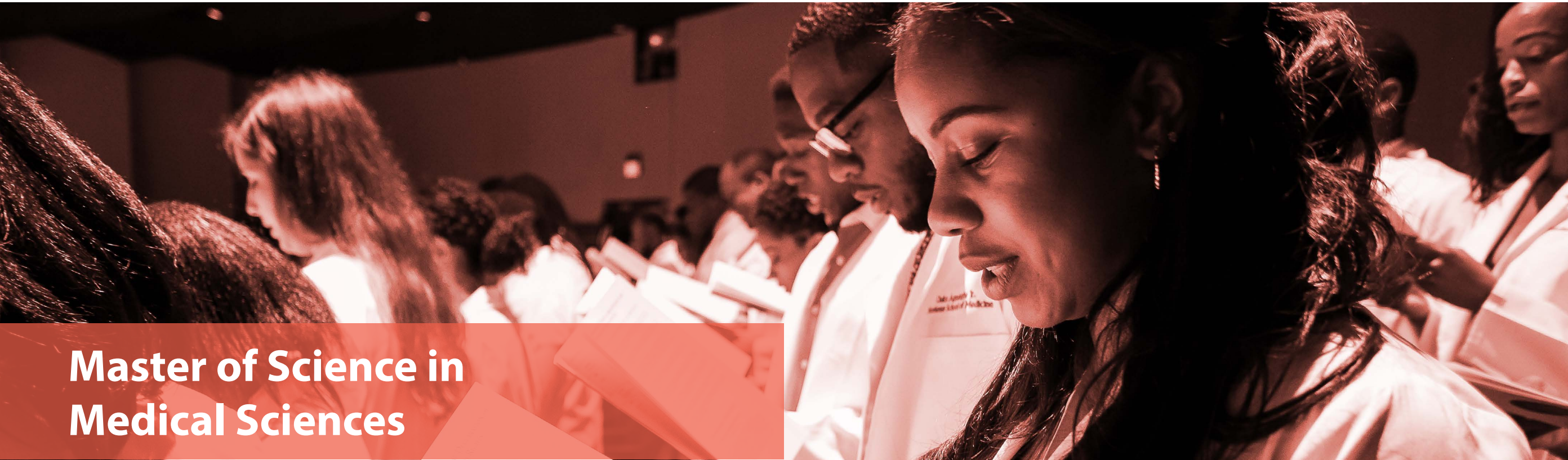
The Master of Science in Clinical Research (MSCR) program is a broad-based, multi-disciplinary graduate level program in clinical research designed to prepare clinical faculty, senior residents, current MSM Ph.D. and M.D. students, post-doctoral candidates, and undergraduate/Master's level students for a career in clinical research. The program provides training in the principles and methods of biostatistics, epidemiology, genetics and clinical trials, outcomes research, health services research, medical informatics, and application of these principles and methods to clinical research. A Multidisciplinary Clinical and Translational Research (MCTR) Certificate program is also offered to address the needs of a variety of trainees who will participate as members of multidisciplinary research teams.

### Total Credit Hours

Program	Total Credit Hours Offered
Master of Science in Clinical Research (MSCR)	40

# CURRICULUM

	July	Aug	Sept	Oct	Nov	Dec	Break	Jan	Feb	Mar	Apr	May	Jun
MSCR 1	Introduction to Medical Informatics							Break	Clinical Trials				
	Principles of Clinical Research								Introduction to Epidemiology				
	Clinical Research Seminar								Clinical Research Seminar				
	Fundamentals of Biostatistics								Analysis of Frequency Data				
	Practical Skills Workshop Series								Scientific Writing and Communication				
	Community Engagement/Health Disparities								Mentored Research Project				
	Mentored Research Project												
MSCR 2	Ethics of Clinical Research in Vulnerable Populations							Break	Clinical Research Seminar				
	Clinical Research Seminar												
	Mentored Research Project								Mentored Research Project				



# Master of Science in Medical Sciences

## Program Overview

The Master of Science in Medical Sciences (**MSMS**) program is a two-year, non-thesis degree that includes graduate coursework in Biochemistry, Anatomy and Physiology, Neurobiology, Medical Microbiology, Medical Pharmacology, Biomedical Genetics, Epidemiology and Biostatistics. The program offers courses in critical thinking and problem solving as the foundational preparation for the MCAT. In lieu of a thesis, students will conduct independent research related to their biomedical science and public health curriculum to be presented in a Culminating Project, the capstone course for the degree. The Culminating Project includes a well-developed oral presentation and written paper. The MSMS degree is designed to enhance the academic credentials of its students for successful application and entry into schools of medicine.

### Total Credit Hours

Program	Total Credit Hours Offered
Master of Science in Medical Sciences (MSMS)	51

# CURRICULUM

	July	Aug	Sept	Oct	Nov	Dec	Break	Jan	Feb	Mar	Apr	May	Jun
<b>MSMS 1</b>	Biochemistry							Introduction to Health Professions					
	Principles of Anatomy & Physiology I							Principles of Anatomy & Physiology II					
	Introduction to Public Health							Biostatistics					
	Survey of Medical Terminology							Community Health Assessment/Intervention					
	Critical Thinking and Problem Solving I							Critical Thinking and Problem Solving II					
<b>MSMS 2</b>	Introduction to Neurobiology Lecture							Introduction to Medical Pharmacology					
	Introduction to Neurobiology Lab							Biomedical Genetics					
	Epidemiology							Culminating Project in Medical Sciences					
	Introduction to Medical Microbiology												
	The Biology of Disease: Current Concepts												





# Bachelor of Science/Master of Science in Neuroscience Program

## Program Overview

The Bachelor of Science/Master of Science in Neuroscience program is designed to expose undergraduates to the rich world of neuroscience research early in their academic journey. Program participants will enter the program as sophomores or juniors, complete requirements for a bachelor of science degree granted by their undergraduate institution and complete requirements for a master of science degree by Morehouse School of Medicine.

Sophomores from Clark-Atlanta University, Morehouse College or Spelman College interested in career paths dealing with research on the nervous system, are encouraged to explore our program highlights, attend an informational meeting on your campus and apply.

The Master of Science in Neuroscience degree is also available to students who have completed a bachelor's degree. Contact the program directly to learn more about this exciting new program at MSM.

# CURRICULUM

	Summer	Fall	Spring
Freshman			Curriculum Counseling for Prospective Students
Sophomore			Curriculum Counseling for Prospective Students
Junior		Essentials in Neuroscience I	Essentials in Neuroscience II
Senior	Laboratory Techniques	Critical Thinking & Scientific Communication I	Essentials in Neuroscience III
	Summer Research Rotation*	Scientific Integrity	
Master's	Master's Research Project		
		Biostatistics	Critical Thinking & Scientific Communication II
			Communication in Neuroscience
Neuroscience Institute Discussions (Seminar Series)			



## Questions about any of the programs?

Contact the respective Program Directors:

**Karen Russell-Randall, Ph.D.**

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**Alexander Quarshie, M.D., M.S.**

*Director, M.S. in Clinical Research Program*  
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**Ulochi Nwagwu**

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**Rita Finley, Ph.D.**

*Program Director, M.S. in Medical Sciences Program*  
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**Morris Benveniste, Ph.D.**

*Program Director, M.S. in Neuroscience*  
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**Ward Kirlin, Ph.D.**

*Director, Doctor of Philosophy in Biomedical Sciences*  
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## Questions about the admissions process?

Contact the GEBS Office or Admissions and Student Affairs:

**Brandon Walton**

*Program Coordinator*  
*GEBS Office*

[bwalton@msm.edu](mailto:bwalton@msm.edu) | (404) 752-1569

*Office of Admissions and Student Affairs*

[njenkins@msm.edu](mailto:njenkins@msm.edu) | (404) 752-1650

[www.msm.edu/Education/GEBS](http://www.msm.edu/Education/GEBS)

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