



School of  
**Biomedical  
Sciences**



# MASTER'S PROGRAMS IN MEDICAL SCIENCES

GRADUATE & POSTDOCTORAL AFFAIRS

# WHY USF?

▶▶▶ UNIVERSITY DISTINCTIONS

USF is ranked 34th in total research expenditures and 27th in federal research expenditures for public universities by the National Science Foundation for fiscal year 2012.

With a student body representing over 130 different countries, USF is one of the 40 most diverse public universities in the country and the second most diverse public university in the state of Florida, according to U.S. News & World Report's recent Diversity Index ratings.

USF is ranked 78th nationally, out of more than 1,500 institutions of higher education, for social mobility, research and civic engagement, according to Washington Monthly.



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## WELCOME TO USF HEALTH MCOM BIOMEDICAL SCIENCES

Welcome to the University of South Florida Morsani College of Medicine's graduate community. This pamphlet is designed to provide accurate and accessible information regarding graduate education in the College's School of Biomedical Sciences. The School houses a group of talented and energetic faculty and staff who are fully committed to our student's success in both education and research.

In the pages that follow, prospective students will find information concerning our available graduate programs, including the broad range of featured subject concentrations and the various admissions requirements. The School's education "continuum" includes a diverse array of Certificate, Master's and Doctoral programs.

You will see that we are proud of our commitment to provide an outstanding graduate experience for all of our students. We invite you to examine all that the College has to offer as a campus leader in graduate education and we look forward to welcoming you to our community of scholars!



# Master's Programs in Medical Sciences

## ONE-YEAR MASTER'S PROGRAMS IN MEDICAL SCIENCES

### MEDICAL TRACK

The M.S. pre-professional program in Medical Sciences, has been developed to provide an interdisciplinary and concentrated program of study that is designed for students interested in either future doctoral or professional programs in the biomedical sciences. The medically-oriented curriculum has been integrated to provide a solid foundation in the medical sciences. The rigorous program is designed to allow students to demonstrate their full academic ability and suitability for future careers in healthcare in either academic or clinical environments. Graduates of the program are anticipated to continue their professional development at medical and dental schools together with a variety of other healthcare professional programs. Students in this track take selected pre-clinical medical school courses and are able to complete the requirements for a Master of Science degree in Medical Sciences within one year.

### RESEARCH TRACK

The M.S. research concentration in Medical Sciences, offers several concentrations, which consists of basic/molecular science credits, with medical relevance. This track is designed to prepare students for future educational or research endeavors in graduate education or other professional programs. The courses are scheduled so that the degree can be completed within one year. In general, concentrations that AVERAGE seven (7) core/basic science and/or quantitative analysis credits per semester are intensely rigorous. The core difference between each concentration would be the course requirements. The "BEST" curriculum is based upon personal preference and therefore, applicants will need to exercise individual judgment.

## 100% ONLINE MASTER'S PROGRAM IN MEDICAL SCIENCES

### HEALTH SCIENCES CONCENTRATION

The Health Sciences concentration, (100% online), provides an interdisciplinary and concentrated program of study that is designed for students interested in either future doctoral or professional programs in the biomedical sciences.

The program integrates an array of disciplines, to provide a solid medically relevant foundation. This interdisciplinary program promotes the broad intellectual focus required of future graduate or professional students in the biomedical sciences or health-care related fields. The courses integrate modern distance teaching methods and are designed to improve student's academic skills that are critical to their future professional development.

U.S. News & World Report's  
Best Colleges

**14th**

In the 2014 edition, USF is ranked 14th as an 'up and coming' university among the country's national universities.



"The most valuable part of the master's program is being able to take courses similar to those one would take in professional school in order to get an understanding of what to anticipate in professional school. In addition, having all the classes on USF's Morsani College of Medicine's campus allows the students in the pre-professional program to be immersed in a medical school environment from day one and make personal connections throughout the year."

– NATALIE T., CLASS OF 2014



# Pre-Professional MEDICAL SCIENCES

## M.S. IN MEDICAL SCIENCES: **MEDICAL/PRE-PROFESSIONAL TRACK**

### OVERVIEW

The One-Year Master of Science in Medical Sciences (Pre-Professional Track) offers a high quality “pre-professional” master’s program that will significantly enhance and extend the academic development of future healthcare professionals. This innovative, interdisciplinary program, the first in Florida to provide an integrated approach with subject areas that comprise the “basic” biomedical sciences, is designed to provide students with a solid academic foundation prior to continuing in a variety of healthcare-related professional programs.

The program is founded on the premise that future clinicians, researchers, educators and healthcare professionals in the biomedical sciences will require extensive interdisciplinary training in order to develop novel solutions to current healthcare problems.

### OBJECTIVES

- Provide advanced scientific training in the basic medical sciences which require greater knowledge than delivered in most undergraduate or non-degree post-baccalaureate professional programs.
- Further develop the training of future physicians and other health-care practitioners.
- Support the academic progress and development of students who wish to pursue future healthcare or biomedical science careers.

HIGHLIGHTS

- Earn a Health Sciences Certificate after completing 12 credit hours
- Participate in our MD student mentor program
- Access to multiple workshops and one-on-one advising to improve your application to professional schools
- Interact with Morsani College of Medicine faculty members selected for their scholarship and professional experience, as well as their ability to work effectively with students.

### CORE CURRICULUM

Basic Medical Genetics  
 Basic Medical Immunology/Microbiology  
 Basic Medical Biochemistry  
 Basic Medical Anatomy  
 Basic Medical Histology  
 Basic Medical Physiology  
 Basic Medical Pharmacology  
 Basic Medical Neurosciences  
 Basic Medical Pathology  
 Basic Medical Embryology  
 Health Sciences Ethics

### PARTNERSHIPS



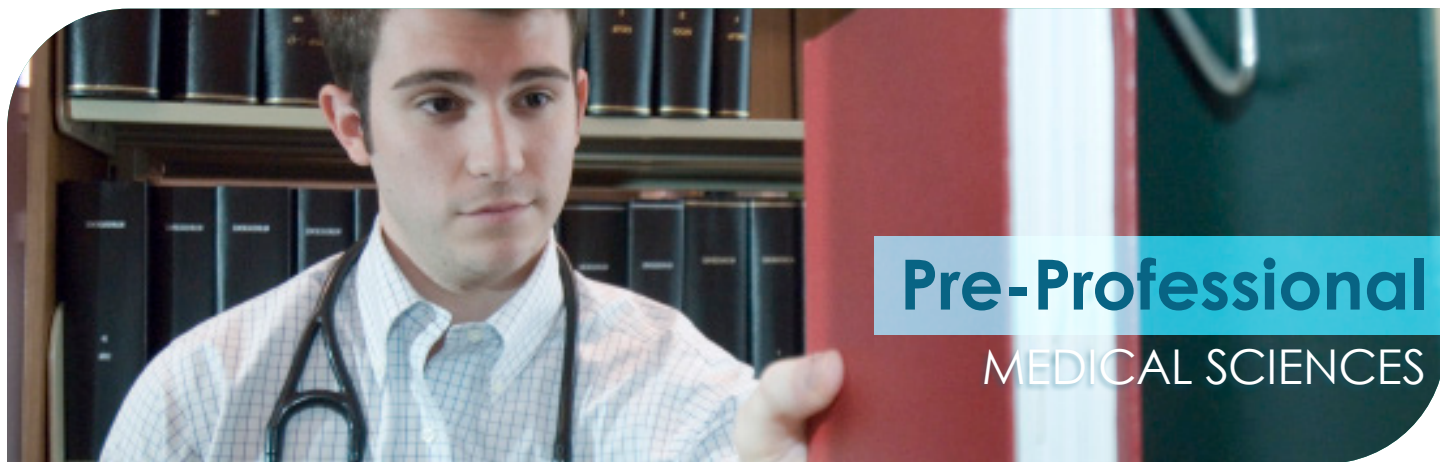
By partnering with the Princeton Review, a leader in test preparation, USF Health Morsani College of Medicine graduate students will receive specific testing strategies and content review to improve their MCAT scores with this two-credit elective.



We value our strong relationships with our MSP3 alumni who have matriculated into USF’s Morsani College of Medicine. With the help of our alumni and other current medical students, we have developed a student mentor program. Current MSP3 students are paired with medical students to offer any guidance or advice pertaining to medical school.



St. George’s Pipeline. We have partnered with St. George’s University (London) to grant interviews to select students who meet specific academic criteria. Their MD program is structured so that students spend years one and two in London and years three and four at prominent U.S. clinical sites.



## Pre-Professional MEDICAL SCIENCES

### M.S. IN MEDICAL SCIENCES: **MEDICAL/PRE-PROFESSIONAL TRACK**

#### FACILITIES

**Gross Anatomy Lab:** Students can elect to participate in the gross anatomy lab and gain in-depth knowledge through cadaver dissection using digital imaging platforms under the direction of anatomy faculty.

**Student Gym & Relaxation Room:** USF's Morsani College of Medicine values a commitment to health. In order to promote a positive school/life balance and well-being amongst our students, the USF Health campus provides a convenient student gym and relaxation room open 24/7 in a secured area.

**Bookstore:** Our USF Health Bookstore is located conveniently on the USF Health campus, allowing easy access to purchase textbooks, supplies, and technology essentials. Students can also take advantage of food and beverage options.

**Library:** The Shimberg Health Sciences Library provides access to countless journals, articles, databases, books, and reserves. Students can gain electronic access to most resources by logging on to their personal computer.

**Student Spaces:** Recent building renovations have provided more space than ever to create an environment focused on collaborative learning. Such student spaces include our Group Learning Rooms and the WELL (Wellness, Engagement, Leadership, and Learning) which houses student support offices, lounges, and various work stations.

**Location:** With an annual average temperature of 72 degrees, the University of South Florida is located just minutes from downtown Tampa and a short car ride from any number of sandy beaches! Classes are held on the USF Health campus, which is strategically placed between two major hospitals, James A. Haley Veterans' Hospital and Moffitt Cancer Center, offering students opportunities to seek out volunteering and shadowing experiences!

#### PROFESSIONAL DEVELOPMENT

**Advising:** Students can take advantage of one-on-one advising to help students acclimate academically and/or socially, as well as to provide individualized evaluation of the student's application to a professional school.

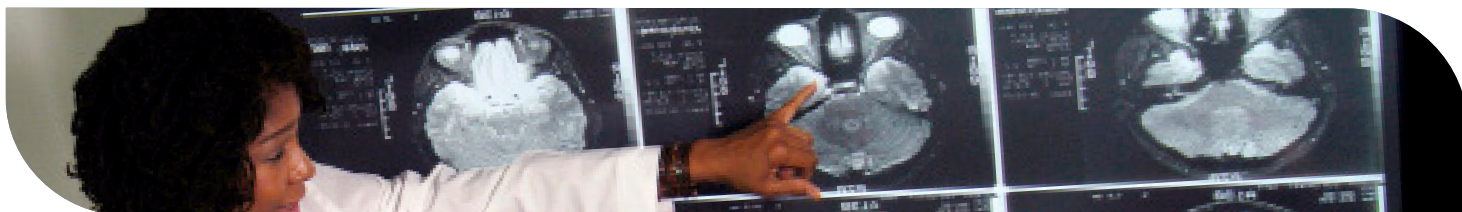
**Free Tutoring:** Throughout the program, qualified tutors hold numerous review sessions to reinforce material covered in lectures.

**Workshops:** Writing a Personal Statement, Interviewing Techniques, Filling out the AMCAS Application, Speakers and representatives from professional school's admission offices, Q & A's with current medical students.

**Faculty:** Learn from our esteemed professors at MCOM and develop strong relationships with faculty members who can potentially be a valuable points of contact for support in your application to professional schools.

**Curriculum:** Our programs emphasize an integrated curriculum to help our students make a smooth transition into a professional school. Students will be familiarized with content that first and second year medical students are expected to learn.

**Careers:** While most of our graduates matriculate into medical and dental schools across the country, there are a variety of other options to consider. Other graduates have sought admission to schools including pharmacy, veterinary, optometry, podiatry, physical therapy and occupational therapy. With the recent high demand of physician assistants, graduates can also apply to Physician Assistant programs.



## M.S. IN MEDICAL SCIENCES: **RESEARCH TRACKS**

### **AGING & NEUROSCIENCE MEDICINE** RESEARCH TRACK

Neuroscience is one of the fastest growing fields in biomedical sciences. There is an increasing demand for health care professionals and research scientists to meet the needs of the aging population affected with neurodegenerative diseases, such as Alzheimer's disease. The Aging and Neuroscience concentration has been developed to integrate neuroscience and biomedical aging into a one-year curriculum. The program is targeted for students interested in pursuing a medical or professional degree, or further graduate education in biomedical sciences and in aging studies. The core curriculum focuses on basic and applied neuroscience, with emphasis on neurodegenerative diseases.

The students can elect to engage in a research component where they will be supervised by mentors from the USF research faculty or affiliated institutes. Program graduates can pursue further professional training in medicine and allied health sciences, continue their graduate education in neuroscience or aging studies, or work in the diverse health care fields, especially those catered to the aging population. Some of the Aging and Neuroscience concentration courses include:

Aging & Neuroscience • Intro to Research in Biomedical Sciences • Basic Medical Neuroscience • Neuroscience Seminar • Directed Research • Health Sciences Ethics (online)

### **MOLECULAR MEDICINE** RESEARCH TRACK

Considered the vanguard of the new millennium in which science truly complements the art of medicine, molecular medicine strives to understand the molecules key to normal body function and the pathogenesis of disease and to design molecular tools for diagnosis, treatment and prevention. Recent changes in research and scholarship in the biomedical sciences has directed attention to the development and training of students who are able to cross the barriers of traditional disciplines and embrace the concepts of interdisciplinary approaches to biomedical problems. The Molecular Medicine concentration has been developed to provide a novel interdisciplinary and concentrated program of study that is designed for students interested in either future doctoral or professional programs in the biomedical sciences. The program integrates several disciplines, including biochemistry, molecular biology, genetics, genomics, microbiology, immunology, virology and biomedical ethics to provide a solid medically-relevant foundation. The rigorous program allows students to demonstrate their full academic ability for future graduate programs or medical school. The interdisciplinary program promotes the broad intellectual focus required of future graduate students in the biomedical sciences or health-care profession. Some of the Molecular Medicine concentration courses include:

Principles in Molecular Medicine • Methods in Molecular Medicine • Responsible Conduct in Research • Directed Research  
Molecular Basis of Disease • Graduate Seminar • Health Science Ethics (online)

### **WOMEN'S HEALTH MEDICINE** RESEARCH TRACK

The Women's Health concentration, offers students the opportunity to complete graduate-level study that focuses on gender-specific topics. An increased awareness that gender-specific issues influence women's and men's health more broadly and with greater impact than previously recognized provides the context for this program of study. Differences between men and women are not limited to reproductive health, but extend to numerous organ systems and cellular functions.

The Women's Health concentration strives to employ pertinent sex-specific information to improve diagnosis, better understand pathogenesis, and ultimately advance patient-oriented therapy. The program is targeted for all graduate level students, medical residents, and clinical professionals (including physicians, nurses, and other health related professionals) with an interest in gender-specific health. The students may elect to engage in the research pathway, where they will be supervised by mentors from the USF Morsani College of Medicine, or the social-health pathway focusing on women and societal transformation. Courses will make extensive use of the "online" Canvas organizational format through the USF portal, as well as, traditional didactic lectures. Post graduates can pursue further professional training in medicine or allied health sciences. Some of the Women's Health concentration courses include:

Medicine and Gender • Basic Medical Pharmacology • Basic Medical Biochemistry • Biostatistics I • Clinical Nutrition  
Pathobiology of Human Cancer • Basic Medical Genetics • Directed Research (Women's Health) • Health Sciences Ethics (online)



## M.S. IN MEDICAL SCIENCES: 100% ONLINE HEALTH SCIENCES PROGRAM

### OVERVIEW

Health Sciences, the study and research of the human body and health related issues, are critical to our understanding of how humans function. The knowledge gained from these studies is vital to today's mission of improving health, as well as preventing and curing diseases.

In the new millennium, in which science truly complements the art of medicine, advances in the health sciences contribute to our understanding of the structure and function of the molecules key to normal body function and the pathogenesis of disease and to design new approaches for diagnosis, treatment and prevention. Recent changes in research and scholarship in the biomedical sciences has directed attention to the development and training of students who are able to cross the barriers of traditional disciplines and embrace the concepts of interdisciplinary approaches to biomedical problems.

The Health Sciences concentration has been developed to provide a new interdisciplinary and concentrated program of study that is designed for students that are interested in future doctoral or professional programs in the biomedical sciences.

### TECHNOLOGY REQUIREMENTS

The Health Sciences concentration requires sufficient access to complete the online classes provided. Students should be adequately equipped with:

- Personal computer
- Internet browser
- Access to CANVAS via [www.my.usf.edu](http://www.my.usf.edu)
- Respondus Lockdown Brower
- Valid e-mail address

### CORE CURRICULUM

- Basic Medical Biochemistry
- Basic Medical Anatomy
- Basic Medical Histology
- Basic Medical Genetics
- Basic Medical Microbiology & Immunology
- Basic Medical Neurosciences
- Clinical Correlations in Molecular Medicine
- Health Sciences Ethics
- Basic Medical Pathology
- Basic Medical Physiology
- Basic Medical Pharmacology

### HIGHLIGHTS

With the Health Sciences concentration being offered 100% online, students participate in online courses from the convenience of their home or personal study space

Students can participate in the courses with limited time constraints

Exams are completed online

Learning becomes interactive and collaborative as students participate in discussion boards

Program can be completed in 4 terms (16 months)

## HOW TO APPLY TO USF'S MEDICAL SCIENCES GRADUATE PROGRAMS

### APPLICANTS PROFILE

Are interested in improving their academic credentials before applying to a health professional school (e.g., M.D., D.O., D.D.S., Pharmacy, etc.)

Want to academically prepare themselves before entering a health professional school

Missed the deadline to apply to a health professional school

Wish to experience an interdisciplinary biomedical sciences curriculum

### APPLICATION PROCEDURE

#### PRIMARY APPLICATION

Complete the online application <https://secure.vzcollegeapp.com/usf/>

OPTION 1: Select "Medical Sciences." Pre-Professional applicants will select Medical Sciences (MSMS) without the concentration.

OPTION 2: To pursue a concentration, select "Medical Science" plus your first choice [concentration](#)

\$30 application fee

#### SECONDARY APPLICATION

[http://gradaffairs.health.usf.edu/ms\\_application.html](http://gradaffairs.health.usf.edu/ms_application.html)

- Typed Graduate Program Application (see website)
- Official transcripts
- Test scores
- Science GPA calculator (see website)
- Personal statement
- Resume
- Two letters of recommendation

#### INTERNATIONAL STUDENTS

- Course-by-course transcript evaluation to include GPA
- TOEFL or IELTS test scores

### APPLICANT REQUIREMENTS

**GPA** Minimum overall GPA of 3.0 or  
Minimum GPA of 3.0 in sciences

**SCORES** Minimum GRE score of 297 or  
Minimum MCAT score of 20

### BASIC SCIENCE REQUIREMENTS

The minimum basic science requirements include introductory courses and laboratories in the following\*:

English  
Mathematics  
Biological Science + lab  
General Chemistry + lab  
Organic Chemistry + lab  
Physics + lab

\*2 semesters in each subject

### GRADUATE TUITION RATES

| CAMPUS/CLASSIFICATION | GRADUATE LEVEL (5000 & UP)                            |
|-----------------------|---|
| Tampa/Resident        | \$431.43 per credit hour*<br>\$13,805.76 / 32 credits |
| Tampa/Non-Resident    | \$877.17 per credit hour*<br>\$28,069.44 / 32 credits |

\*Tuition rates subject to change.

Details for tuition and fees can be found here:  
<http://usfweb2.usf.edu/uco/studentaccounting/tuition.asp>

### FINANCIAL ASSISTANCE

#### FEDERAL STUDENT AID

Federal Student Aid programs are the largest source of student aid in America. Take advantage of this opportunity by determining your eligibility with the Free Application for Federal Student Aid (FAFSA).

Visit USF's Financial Aid website: <http://usfweb2.usf.edu/finaid/>

#### FEDERAL DIRECT LOANS

These student loans must be repaid and are available to both undergraduate and graduate degree students.





# APPLY NOW TO USF HEALTH MORSANI COLLEGE OF MEDICINE SCHOOL OF BIOMEDICAL SCIENCES



## ACCREDITATION

Since 1965, the University of South Florida has been regionally accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award degrees in the Baccalaureate, Master, Specialist and Doctoral levels, including the Doctor of Medicine.

The commission sets a standard of integrity for universities, taking into consideration the academic mission, strategy, resources, assessment process, teaching effectiveness, student learning, usefulness of curricula and community involvement. When a college earns regional accreditation, it is showing that it is dedicated to providing the highest quality education possible.

## ACADEMIC COMMON MARKET

If you reside in one of the 16 states that are members of the Southern Regional Educational Board (SREB) then you are eligible to apply for in-state tuition. The member states include Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Residents from non-SREB states are not eligible to apply to Academic Common Market.

The purpose of the Academic Common Market (ACM) is to provide programs of study to graduate students that are not available in their home state. The student must first be accepted for admission through the normal admission procedure at the University of South Florida.

*"Academic confidence, endurance, time management and resilience are a few of the many traits guaranteed to evolve via completion of this program. Certainly the rigor of such a comprehensive medical curriculum will increase your knowledge, but the in-depth exposure to the subject matter truly contributes to your overall understanding of the intricacies of the human body."*

– JON-AUSTIN A., CLASS OF 2014

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