

MORSANI COLLEGE OF MEDICINE



Changes to Note

Graduate Council approved the curriculum as noted on the date below.

Concurrent Degrees

MD	Medicine/Public Health	M.D./M.P.H.	New Concurrent Degree Option	5/1/2017
MD	Public Health/Medical Sciences (BMB)	M.P.H. / Ph.D.	Terminate Concurrent Degree Option	3/6/2017

Majors

MD	Athletic Training	M.S.	Change Major - curriculum; pre-reqs, course numbers	5/1/2017
MD	Health Informatics	M.S.H.I.	Add New Concentration in Health Analytics (BHAP)	11/7/2016
MD	Medical Sciences	M.S.M.S.	Change Major: Anatomy Concentration	11/7/2016
MD	Medical Sciences	M.S.M.S.	Terminate Concentration - Health Informatics (HIN)	11/7/2016
MD	Medical Sciences	M.S.M.S.	Inactivate Metabolic & Nutritional Medicine Conc (MNM)	11/7/2016
MD	Medical Sciences	Ph.D.	Change Major - allow for GRE waiver with MCAT Scores	5/1/2017

New Certificates

MD	Health Analytics	Certificate	New Certificate	12/5/2016
MD	Pathology	Certificate	New Certificate	5/1/2017

Terminated Certificates

MD	Cognitive Health	Certificate	Terminate Certificate	5/8/2017
MD	Integrative Weight Management	Certificate	Terminate Certificate	5/8/2017
MD	Metabolic & Nutritional Medicine	Certificate	Terminate Certificate	5/8/2017
MD	Metabolic Cardiology	Certificate	Terminate Certificate	5/8/2017
MD	Metabolic Endocrinology	Certificate	Terminate Certificate	5/8/2017

University of South Florida
Morsani College of Medicine
12901 Bruce B. Downs Blvd. MDC40
Tampa, FL 33612-4799

Web address: www.health.usf.edu/medicine/graduatestudies
Email: biomed@health.usf.edu
Phone: 813-974-4181
Fax: 813-974-4317

College Dean: Charles J. Lockwood, MD, MHCM
Sr. Associate Dean: Gretchen Koehler, Ph.D.
Associate Dean: Michael Barber, D. Phil

Mission Statement:

The Morsani College of Medicine Graduate Faculty consist of scientists who conduct research in many fields of science basic to understanding disease processes and to the development of improved methods of diagnosis, treatment and prevention of disease. Students receive their research training in up-to-date methods of scientific investigation and gain experience in modern well-equipped laboratories. The faculty is dedicated to providing high quality education in an environment conducive to scholarly activity and scientific achievement.

Candidates for the Ph.D. in Medical Science enter into an interdisciplinary major enabling them to select any one of the concentrations that are offered. Collaboration among laboratory scientists of all disciplines is encouraged. The programs of study allow students to tailor their majors to individual needs and interests. Thanks to faculty research awards, students have a multitude of opportunities to participate in cutting-edge research projects. Medical Science Ph.D. graduates go on to become deeply involved in research sponsored by academic, industrial and government institutions

The master's degree in Medical Sciences (M.S.M.S.) can be completed in as little as one year and has been designed to assist students who are seeking admissions into doctoral degree programs (Ph.D. or M.D.). Successful graduates of the Medical Science master's degree program can improve their chances for admissions into professional programs by further developing their foundational knowledge of biomedical science. Currently, the Medical Sciences master's degree program boasts a ninety percent success rate for adequately preparing students for entry into doctoral or professional majors. Financial Aid - A limited number of assistantships, fellowships, and tuition waivers are available for doctoral students.

Major Research Areas:

Allergy, Immunology and Infectious Diseases Cancer Biology, Cardiovascular Research, Neuroscience Research

Degrees, Majors, Concentrations:**Master of Science (M.S.)**

Advanced Athletic Training (AAT)
Athletic Training (ATR)

Master of Physician Assistant Studies (M.P.A.S.)

Physician Assistant Studies (MPA)

Master of Science in Bioinformatics and Computational Biology (M.S.B.C.B.)

Bioinformatics and Computational Biology (BCB)

Master of Science in Biotechnology (M.S.B.)

Biotechnology (MSB)

Master of Science in Health Informatics (M.S.H.I.)

Health Informatics (HIF)

Health Analytics (BHAP)

Master of Science in Medical Sciences (M.S.M.S.)

Medical Sciences (MSG)

Aging and Neuroscience (ANS)

Athletic Training (ATL)

Anatomy (ANA)

Biochemistry and Molecular Biology (BMB)

Clinical and Translational Research (CTR)

Health Science (HSC)

Interdisciplinary Medical Sciences (IMS)

Medical Microbiology and Immunology (MDI)

Metabolic and Nutritional Medicine (MNM)

Molecular Medicine (MLM)

Women's Health (WSH)

Doctor of Philosophy (Ph.D.)

Medical Sciences (MSG)

Allergy, Immunology and Infectious Disease (All)

Anatomy (ANA)

Biochemistry and Molecular Biology (BMB)

Clinical and Translational Research (CTR)

Microbiology and Immunology (MMI)

Molecular Medicine (MLM)

Molecular Pharmacology and Physiology (MPY)

Neuroscience (NEU)

Pathology and Cell Biology (PCB)

Pathology and Laboratory Medicine (PLM)

Pharmacology and Therapeutics (PAT)

Physiology and Biophysics (PAB)

Rehabilitation Sciences (RHS)

Chronic Disease (CHD)

Neuromusculoskeletal Disability (NMD)

Veteran's Health/Reintegration (VHR)

Doctor of Medicine (M.D.)*

Medicine

Doctor of Physical Therapy (D.P.T.)*

Physical Therapy

**professional majors, offered through the Morsani College of Medicine – USF Medical School*

Concurrent Degrees:

Biomedical Engineering (Ph.D.) and Medicine (M.D.) Concurrent Degree*
Biotechnology (MS) and Entrepreneurship in Applied Technologies (M.A.)
Medical Sciences (Ph.D.)/Medicine (M.D.) Combined Major
Medicine (MD) / Public Health (M.P.H.)
Physical Therapy (D.P.T.) and Public Health (M.P.H.)

**refer to the USF Medical School or the College of Engineering for information.*

Graduate Certificates:

Aging and Neuroscience
Anatomy
Biochemistry & Molecular Biology
Bioinformatics
Biotechnology
Brain Fitness and Memory Management
Cardiovascular Engineering
Clinical Investigation
Health Analytics
Health Informatics
Health Sciences
Integrative Health Coaching
Integrative Oncology
Medical Biochemistry, Microbiology and Immunology
Medicine and Gender
Molecular Medicine
Pathology
Pharmacy Sciences
Scholarly Excellence, Leadership Experiences and Collaborative Training

For the most up to date listing, see:

<http://www.usf.edu/innovative-education/programs/graduate-certificates/>

COLLEGE REQUIREMENTS

Refer to College for information.

ADVANCED ATHLETIC TRAINING

Master of Science (M.S.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall	June 1
Spring	No Admission
Summer	No Admission

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours:	33
Level:	Master's
CIP Code:	51.0913
Dept Code:	OSM
Major/College Codes:	AAT/MD
Approved	201508

CONTACT INFORMATION

College: Medicine
 Department: Orthopedics and Sports Medicine

Contact Information: www.grad.usf.edu

USF Athletic Training Admissions Office – Professional Degree Program
 Attn: Angela Moore
 13220 USF Laurel Drive, MDF 5th Floor, MDC106,
 Tampa, FL 33612

MAJOR INFORMATION

The Master of Science in Advanced Athletic Training has an emphasis on youth sports injury and other advanced athletic training competencies. This post-professional major is directed towards students either who hold the athletic training credential issued by the Board of Certification (BOC) or who are BOC-eligible or have equivalent athletic training professional preparation and wish to seek an advanced degree. This major is designed to provide students with a post-professional degree in Advanced Athletic Training with an emphasis on youth sports injury. For information on tuition costs, please contact the Department.

Major Research Areas:

Athletic training, youth sports injury

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- A bachelor's degree from a regionally accredited university
- Board of Certification (BOC)-certified or equivalent (i.e. certified athletic trainer, recent graduate from CAATE-accredited Athletic Training Program, Canadian Athletic Therapist certification)
- Minimum overall grade-point average of 3.00 out of a possible 4.00 with a minimum grade-point average of 3.00 in Athletic Training courses
- Completion of GRE on record

CURRICULUM REQUIREMENTS

Total Minimum Hours:

33 credit hours

Core Requirements

ATR 6236	3	Pediatric Sports Medicine
ATR 6235	3	Motor Development & Skill Acquisition
ATR 5605	3	Youth Injury Epidemiology
ATR 5515	3	Administrative Aspects of Injury Prevention Programs
ATR 6615	3	Evidence Based Medicine, Research & Writing
ATR 5508	3	Contemporary Issues in Athletic Training (<i>Includes 5 days on campus in Tampa</i>)
ATR 6116	3	Preventing Sudden Death in Youth Sports Settings
ATR 5319	3	Rehabilitation Considerations for Children
ATR 6617	3	Capstone Project I
ATR 6446	3	Medical Conditions of Adolescents
ATR 6618	3	Capstone Project II

Non-Thesis

No thesis is required.

Comprehensive Exam: Capstone requirement

The degree will be a non-thesis option, but will require a capstone project for each student, that will be completed during his or her Year 2 (ATR 6617 & ATR 6618). The capstone project will be in lieu of a comprehensive examination. The project could consist of items such as a comprehensive literature review, development of an injury prevention program, systematic review, development of a policies and procedures manual, etc.

Other Requirements

The major is designed to be completed in two years. The format of the major includes 10 courses, which are taught completely online, and one hybrid course that includes an online component and an on-campus (Tampa, FL) 5-day session in the summer.

COURSES

See <http://www.ugs.usf.edu/course-inventory/>

ATHLETIC TRAINING

Master of Science (M.S.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall	No Admission
Spring	No Admission
Summer	February 15

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours:	60
Level:	Master's
CIP Code:	51.0913
Dept Code:	OSM
Major/College Codes:	ATR/MD

Concentrations None

CONTACT INFORMATION

College: Medicine
 Department: Orthopedics and Sports Medicine

Contact Information: www.grad.usf.edu
www.usfathletictraining.com

USF Athletic Training Admissions Office – Professional Degree Program
 Attn: Angela Moore
 13220 USF Laurel Drive, MDF 5th Floor, MDC106,
 Tampa, FL 33612

MAJOR INFORMATION

The Master of Science in Athletic Training (M.S. in A.T.) major is built around 60 credit hours of required coursework to satisfy the eligibility requirements for the students to sit for the National Athletic Trainers' Association Board of Certification examination.

Major Research Areas:

Athletic Training, Rehabilitation, Biomechanics, Prevention of Sudden Death in Athletics

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- A bachelor's degree from a regionally accredited university
- Minimum of 3.00 GPA or equivalent in undergraduate coursework
- Completion of GRE on record
- Meet the technical standards for admission or show potential for accomplished tasks
- Three (3) letters of Recommendation
- Personal statement in 1000 words or less describe primary career goals, what has most directly influenced your choice to become an Athletic Trainer, your attributes related to the field of Athletic Training and why you should be selected in the Athletic Training major.
- Interview (via Skype or on campus) with the Athletic Training faculty and staff
- Must complete a secondary application with ATCAS: <https://atcas.liasoncas.com/applicant-ux/#/login>

Prerequisite Courses

- Anatomy and Physiology (2 semesters with lab)
- Medical Terminology
- Nutrition
- Psychology
- Exercise Physiology
- Chemistry (lab preferred not required)
- Physics (lab preferred not required)
- Biology (lab preferred not required)
- Statistics
- Biomechanics/Kinesiology (Recommended not required)
- Technical Writing (Recommended not required)

CURRICULUM REQUIREMENTS**Total Minimum Hours:****60 credit hours****Core Requirements**

ATR 5105C	Athletic Training Techniques	3
ATR 5125	Anatomical Basis of Clinical Practice in Sports Medicine	3
ATR 5217C	Physical Examination I	4
ATR 5218C	Physical Examination II	4
ATR 5348C	Health and Wellness Promotion across the Lifespan III	1
ATR 5306C	Therapeutic Interventions I	4
ATR 5307C	Therapeutic Interventions II	4
ATR 5308C	Therapeutic Interventions III	1
ATR 5346C	Health and Wellness Promotion across the Lifespan I	3
ATR 5347C	Health and Wellness Promotion across the Lifespan II	1
ATR 5435	Medical Conditions	3
ATR 5534	Documentation in Athletic Training	1
ATR 5612	Evidence Based Medicine in Athletic Training	2
ATR 5815	Clinical Experience in Athletic Training I	3
ATR 5825	Clinical Experience in Athletic Training II	3
ATR 6114	Preventing Sudden Death in Sport I	2
ATR 6115	Preventing Sudden Death in Sport II	2
ATR 6226	Advanced Athletic Training	3
ATR 6517	Professional Practice	4
ATR 6616	Research in Athletic Training	3
ATR 6835	Clinical Experience in Athletic Training III	3
ATR 6845	Clinical Experience IV	3

*Students are required to complete between 200-300 clinical hours per semester at various assigned clinical sites around the Tampa area. In accordance to accreditation standards, these clinical experiences must be tied directly to academic credit.

**Many students will take advantage of the summer between the 1st and 2nd years to obtain clinical internships in both local and out of town entities.

Non-Thesis

No thesis is required.

Comprehensive Exam: Capstone requirement

The major is a non-thesis option, but requires a capstone project for each student, that will be completed in his or her last semester during the Research in Athletic Training course. The capstone project will be in lieu of a comprehensive examination. The project could consist of items such as a comprehensive literature review, development of an injury prevention program, systematic review, development of a policies and procedures manual, etc. The Athletic Training faculty will approve the contents of individual projects during the Research in Athletic Training course (ATR 6610).

Other Information:

Graduation Requirements - Students will complete all 60 hours of didactic coursework with a minimum GPA of 3.00. Students will complete at least 1000 hours of clinical education under an approved Preceptor.

Sequence:

Year 1	(41)
Summer	
AT Techniques	3
Anat Basis of Clin Prac	3
Documentation in AT	1
Fall	
Physical Exam I	4
Therapeutic Inter I	4
Preventing Sudden Death I	2
Preventing Sudden Death II	2
Clinical Exp 1	3
Spring	
Therapeutic Inter II	4
Physical Exam II	4
Health and Wellness I	3
Medical Conditions	3
Evidence Based Med	2
Clinical Exp II	3
Year 2	(19)
Summer	
Open time for clinical internships	
Fall	
Health and Wellness II	1
Health and Wellness III	1
Professional Practice	4
Research in AT	3
Clinical Exp III	3
Spring	
Therapeutic Inter III	1
Advanced AT	3
Clinical Exp IV	3

COURSES

See <http://www.ugs.usf.edu/course-inventory/>

BIOINFORMATICS AND COMPUTATIONAL BIOLOGY

Master of Bioinformatics and Computational Biology (M.S.B.C.B.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall:	June 1
Spring:	October 15
Summer:	February 15

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours:	36
Level:	Masters
CIP Code:	26.1103
Dept Code:	MED
Major/College Codes:	BCB MD
Approved:	2003

CONTACT INFORMATION

College:	Medicine
Department:	Molecular Medicine

Contact Information: www.grad.usf.edu

Other Resources:

<http://gradaffairs.health.usf.edu/Bioinformatics.html>

MAJOR INFORMATION

The Master's Degree Program in Bioinformatics and Computational Biology at the University of South Florida represents a multi-college partnership and a truly interdisciplinary collaboration. Participating departments include the Departments of Biochemistry & Molecular Biology in the Morsani College of Medicine, Mathematics in the College of Arts and Sciences, Computer Sciences and Engineering and the Division of Biomedical Engineering in the College of Engineering, Epidemiology and Biostatistics in the College of Public Health and Information Systems and Decision Sciences in the College of Business Administration. The major is designed to meet the increasing demand for trained people in this emerging area, which crosses the traditional fields of biological, mathematical and computer sciences. The major, therefore, builds on and complements the current strengths of the university.

The goal of the Master's Degree Program in Bioinformatics and Computational Biology is to provide students enrolled in the major with high quality training and education that will prepare them for careers in science, industry, health care and education. The curriculum has been designed accordingly and provides the theoretical background, the practical training and, with the internships, the "real life" experience, which will equip students with the essential tools for a successful career in the field of Bioinformatics and Computational Biology.

The Master's Degree Program in Bioinformatics & Computational Biology is designed for 36 credit hours to be obtained during one to two years of study. Core courses will provide the foundation and basics before advanced work, including electives, and a Master's thesis or internship will be pursued. The curriculum is flexible and will be tailored to the individual student's background, interests and career goals. However, electives must be selected from at least two of the participating departments to assure breadth of training.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- A bachelor's degree or equivalent from a regionally accredited university
- Minimum overall grade-point average of 3.00 out of a possible 4.00 with a minimum grade-point average of 3.00 in the sciences
- Graduate Record Examination*
- Completed pre-requisites in:

- Calculus I-III
- Linear algebra
- Biostatistics
- At least "C" and "Maple" or "Mathematica" or "MATH-CAD"
- General biology (1 year)
- Organic chemistry (1 year)

*The GRE may be waived in special circumstances where the applicant can demonstrate substantial bioinformatics experience. This experience includes (but is not limited to) 2-3 years of research experience in academic or industrial settings working on bioinformatics analysis of biological data, or software development (preferentially in biological or bioinformatics fields), or participation in research projects leading to published papers. The decision on the waiving of GRE will be at the Graduate Director's discretion.

CURRICULUM REQUIREMENTS

Total Minimum Hours - 36

Core Requirements – 28

Electives – 8

Prerequisites:

Calculus I-III, linear algebra, biostatistics, at least "C" and "Maple" or "Mathematica" or "MATH-CAD", one year of general biology and one year of organic chemistry.

CORE REQUIREMENTS

Required courses:	28
GMS 7930 Principles of Molecular Medicine Sec I & II	4
GMS 7930 Python Programming	3
BCH 6886 Fundamentals of Structural Bioinformatics	4
GMS 7930 Applied Bioinformatics	3
BSC 6932 Computational Biology	3
GMS 6901 Research Ethics	1
PHC 6050 Biostatistics I	
BSC 6942 Bioinformatics Internship	4
MAT 5932 Selected Topics: Combinatorics/Graph Theory	3

Students who can demonstrate significant prior training in any required course can, at any time during their studies, with written approval of the Graduate Director, replace the course with an major elective course.

ELECTIVES 8

Students select from the lists below, or other course as approved by Graduate Director.

SEQUENCE

Required Courses:

FALL

GMS 7930 Basic Principles of Molecular Medicine Sec I & II 4cr
 MAT 5932 Selected Topics: Combinatorics/Graph Theory 3 cr
 GMS 6091 Research Ethics 1cr

SPRING

BCH 6886 Fundamentals of Structural Bioinformatics 4 cr
 PHC 6050 Biostatistics I 3cr
 BSC 6932 Computational Biology 3 cr

SUMMER

GMS 7930 Applied Bioinformatics 3 cr
 GMS 7930 Python Programming 3 cr
 BCH 6952 Bioinformatics Internship (all semesters) 4 cr – 6 cr

Electives**Science/COM:**

BCH 6135	Methods In Molecular Biology	4
GMS 6114	Vaccines and Applied Immunology	2
GMS 6194	Biotechnology Forum—R&D in Florida’s Biotech Companies	1
GMS 6933	Case Studies: Intellectual Property in Biotechnology	2
GMS 6141	Basic Medical Microbiology/Immunology	3
CIS 6930	Advanced Data Structures	3
MAT 6932	Sel. Topics in Bioinformatics & Comp. Biology	3
GMS 7930	Selected Topics	3
GMS 7939	Graduate Seminar	1
GMS 6847	Translational Biotechnology	3
GMS 7910	Directed Research	1-4
GMS 6101	Molecular and Cellular Immunology	3
BHC 6746	Structural Biology	3
BCH 6227	Molecular Basis of Disease	4
GMS 6103	Found-Med Microbiology and Immunology	4
GMS 6107	Advances in Virology	2

Management Information Systems/COBA:

ISM 6124	Advanced Systems Analysis and Design	3
ISM 6218	Advanced Database Management	3
ISM 6225	Distributed Information Systems	3
ISM 6930	Data Warehousing and Data Mining	3
ISM 6930	Information Technology in Medical Care	3

Computer Science and Engineering/Biomedical Engineering/CE:

COT 6405	Introduction to the Theory of Algorithms	3
CEN 6016	Software Engineering	3
CAP 5625	Introduction to Artificial Intelligence	3
CAP 6638	Pattern Recognition	3
CAP 5400	Digital Image Processing	3
ESB/CIS 6930	Bioinformatics in Biomedical Engineering	3

Mathematics/CAS:

STA 5326	Mathematical Statistics	3
MAD 5305	Graph Theory	3
STA 5166	Computational Statistics	3
MAT 6939	Graduate Seminar	2

Epidemiology & Biostatistics/CPH:

PHC 6051	Biostatistics II	3
PHC 6053	Categorical Data Analysis	3
PHC 6054	Design of Experimental Studies for Health Researchers	3
PHC 6057	Biostatistical Inference I	3

Comprehensive Exam

As an alternative to a Master's Comprehensive Exam, Bioinformatics Master's students will have to complete a practical internship and theoretical assignment, which will both require the successful application of the knowledge they have acquired during their formal training. Required are:

- An internship with a written and an oral internship report and
- A review paper providing an overview of recent advancements in an area of bioinformatics of the student's choice.

Thesis

Complete M.S. Thesis Project or Internship 4-6

Students must maintain an overall average of 3.00 ("B").

COURSES

See <http://ugs.usf.edu/course-inventory>

BIOTECHNOLOGY

Master of Science in Biotechnology (M.S.B.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall:	June 1
Spring:	October 15
Summer	February 15

International applicant deadlines:

<http://www.grad.usf.edu/majors>

In select cases, late admission is possible.

Minimum Total Hours:	36
Level:	Masters
CIP Code:	26.1201
Dept Code:	MED
Major/College Codes:	MSB MD
Approved:	2007

CONTACT INFORMATION

College:	Medicine
Department:	Molecular Medicine

Contact Information: www.grad.usf.edu
biotech@health.usf.edu

Other Resources:

Website:
<http://gradaffairs.health.usf.edu/biotechnology.html>

MAJOR INFORMATION

The USF Master's Degree Program in Biotechnology represents a multi-college partnership and a truly interdisciplinary collaboration. Participating colleges include the Morsani College of Medicine, the College Of Engineering, the College Of Public Health, the College of Arts And Sciences and the College of Business Administration. The major is designed to meet the increasing demand for trained people in this exploding area, which crosses the traditional fields of biological, chemical, engineering, health and computer sciences. The curriculum has been designed accordingly and provides the theoretical background, the practical training and, with the internships, the "real life" experience, which will equip students with the essential tools for a successful career in the field of biotechnology. In 2008, the USF Biotechnology major was recognized by the Council of Graduate Schools as **Professional Science Master's Program**. Graduates take jobs in the Biotechnology Industry or move on to a Ph.D. Degree Program, Medical School, Dental School, Veterinary School or Pharmacy School.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below. The USF Biotechnology major will be available for full -time and part-time enrollment. In order to be considered for admission to the Master's degree program in Biotechnology, applicants must fulfill the following requirements:

Administrative Pre-Requirements:

- A bachelor's degree
- A minimum undergraduate GPA of 3.00 on a 4.00 scale
- A GRE test score
- Two letters of recommendation
- Statement of purpose, indicating how the major would suit the student's interests and serve his/her professional goals
- Complete transcripts of undergraduate work and any previous graduate work
- International students need an official transcript evaluation, see [Office of Admissions](#)
- A completed USF Application to Graduate Studies

Major Pre Requirements:

A good foundation in biochemistry, molecular biology and genetics, i.e. a bachelor's degree in either the biological or chemical sciences or at least one year of studies in those disciplines would be the optimal preparation for admission to the major in Biotechnology. However, the faculty of the USF Biotechnology major is aware that not all applicants who are interested in pursuing this degree will have this formal background. Instead, some might have accumulated substantial knowledge in one of these disciplines during their work as laboratory technicians, engineering assistants or environmental or public health service providers. Those students would be ideally suited to start their graduate education with a Graduate Certificate in Biotechnology that is also offered by the Department of Molecular Medicine in the Morsani College of Medicine.

<http://www.usf.edu/innovative-education/programs/graduate-certificates/biotechnology.aspx>

The Biotechnology Graduate Certificate Degree has less stringent entrance requirements (a GRE is not required) but its successful completion will serve several purposes:

- it will provide the students with a certificate of advanced studies independent of prospective additional studies in the Biotechnology major,
- it will serve as a complete package of fulfilled pre requirements for admission into the Biotechnology major,
- 12 credit hours of the Biotechnology Certificate can be transferred into the major.

CURRICULUM REQUIREMENTS**Total Minimum Hours****36 credit hours**

The Master's Degree Program in Biotechnology is designed for 36 credit hours, which can be obtained in 3 semesters of study. The major will be available for full-time and part-time enrollment. Seven core courses will provide the foundation and basics before advanced work, including four electives and an internship, will be pursued. The curriculum is flexible and can be tailored to the individual student's background, interests and career goals.

The core courses include introductory courses in biochemistry, molecular and cellular biology, introduction to biotechnology, bioinformatics, biotechnology and bioethics, Translational Biotechnology and a seminar on current topics in biotechnology. Most of these courses are part of the current graduate curricula in the involved colleges. Student will have the option to choose four electives out of a total of 22 electives that are contributed by five participating colleges. The electives are organized in four different categories i.e. science, engineering, public health and business/law and the students will be free to select according to their interests and career plans.

Students must maintain an overall average of 3.00 ("B")

CORE REQUIREMENTS**Required Courses: 31 hours**

GMS 7930	Basic Principles in Molecular Medicine Sec I & II	4cr
BCH 6135C	Methods in Molecular Biology	4cr
BSC 6436	Intro to Biotechnology	3cr
EIN 6106	Technology and Law	3cr
GMS 6847	Translational Biotechnology	3cr
BSC 6437	Biotechnology and Bioethics	3cr
BCH 6886	Fundamentals of Structural Bioinformatics	4cr
GMS 7930	Biotech Forum	1cr
GMS 6943	Biotechnology Internship	3cr
GMS 7930	Python Programing	3cr

Students who can demonstrate significant prior training in any required course, can at anytime during their studies, with written department approval, replace a course with an elective.

Electives:**5 hours**

Students select from the lists below, or other course as approved by Graduate Director.

SEQUENCE

Required Courses:

Fall Semester		14 hours
GMS 7930	Basic Principles in Molecular Medicine Set I & II	4
BSC6436	Introduction to Biotechnology	3
BCH 6135C	Methods in Molecular Biology	4
EIN 6106	Technology and Law	3
Spring Semester		11 hours
GMS 7930	Biotech Forum	1
GMS 6847:	Translational Biotechnology	3
BSC 6437:	Biotechnology and Bioethics	3
BCH 6886	Fundamentals of Structural Bioinformatics	4
SUMMER		6 hours
GMS 7930	Python Programming	3
GMS 6943	Biotechnology Internship (all semesters)	3

Electives**Science:**

GMS 7930	Stem Cells in Brain Repair	3
GMS 6513	Principles of Pharmacology and Therapeutics	3
GMS 7930	Aging and Neuroscience	3
GMS 6114	Vaccines and Applied Immunology	2
GMS 7939	Graduate Seminar	1
GMS 6141	Basic Medical Microbiology/Immunology	3
GMS 6115	Medical Parasitology and Mycology	3
GMS 6110	Microbial Pathogenesis and Host parasite interactions	3
BCH 6746	Structural Biology	3
GMS 6103	Foundations in Med Microbiology & Immunology	4
GMS 7930	Applied Bioinformatics	3
BCH 6627	Molecular Basis of Disease	4
GMS 6101	Molecular Cellular Immunology	3
GMS 6012	Basic Medical Genetics	3
GMS 6107	Advances in Virology	2
GMS 7930	FDA Regulations	2
GMS 7910	Directed Research	1-4

Engineering:

BME 6107	Biomaterials I: Material Properties	3
BME 6108	Biomaterials II: Biocompatibility	3
BME 6634	Biotransport Phenomena	3
ECH 6417	Bioseparations	3
ECH 5740	Theory and Design of Bioprocesses	3
BME 5040	Pharmaceutical Engineering	2
ENV 6667	Environmental Biotechnology	3

Public Health:

PHC 6310	Environmental Occupational Toxicology	3
PHC 6050	Biostatistics I	3
PCH 6051	Biostatistics II	3
PHC 6000	Epidemiology	3
PHC 6017	Design and Conduct of Clinical Trials	3

Business/Law:

EIN 6186	Strategic Market Assessment for New Technologies	3
ENT 6016	New Venture Formation	3

ENT 6116	Business Plan Development	3
ENT 6415	Fundamentals of Venture Capital and Private Equity in Entrepreneurship	3
GMS 6095	Principles of Intellectual Property	3
GMS 6933	Case Studies: Intellectual Property in Biotechnology	2

Project or Thesis/Dissertation:

As an alternative to a Master's Comprehensive Exam, biotechnology Master's students will have to complete a practical internship and theoretical assignment which will both require the successful application of the knowledge they have acquired during their formal training. Required are:

- an internship with a written and an oral internship report and
- a review paper providing an overview of recent advancements in an area of biotechnology of the student's choice.

COURSES

For more information on individual courses, please see <http://ugs.usf.edu/course-inventory> or contact the department directly: biotech@health.usf.edu

BIOTECHNOLOGY AND ENTREPRENEURSHIP IN APPLIED TECHNOLOGIES

Concurrent Degrees:

**Master of Science in Biotechnology (M.S.B.) Degree and
Master of Science in Entrepreneurship in Applied Technologies (M.S.)**

DEGREE INFORMATION

Refer to individual Majors for deadlines

Minimum Total Hours: 57
Level: Masters
CIP Code: 26.1201
Dept Code: MED
Major/College Codes: MSB MD

CONTACT INFORMATION

Colleges: Business and Medicine
Department: Center for Entrepreneurship
and Molecular Medicine

Contact Information: www.grad.usf.edu

MAJOR INFORMATION

The Concurrent Degrees in Biotechnology and Entrepreneurship is the combination of two existing majors that allows students to obtain two Master's degrees in a concurrent rather than sequential effort. The time commitment will be about three years with a total of 57 credit hours. The combination of a Master's in Biotechnology with a Master's in Entrepreneurship educates students to understand the scientific process and its challenges and at the same time provides the training that will enable them to facilitate the translation of scientific data from mind to market. This combination makes graduate students outstandingly versatile and thereby lays an essential step-stone for their future success. The Biotechnology Major has also been recognized as a "Professional Science Master's Program" by the U.S. Council of Graduate Schools.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

Students will have to apply individually to each major. Admission to one major does not automatically grant admission to the other major. Once the student has been admitted to both majors, he/she seeks permission from the Graduate Directors of both majors for concurrent crediting of 9 credit hours; the USF Office of Graduate Studies provides a form sheet for this process. For admission students must have:

- A bachelor's degree with a minimum undergraduate GPA of 3.0 on a 4.0 scale
- A minimum GRE test score of at least 500 verbal and at least 600 quantitative, can be waived in some cases

CURRICULUM REQUIREMENTS

A total of 57 credits is required for graduation with a Concurrent Master's in Biotechnology and Entrepreneurship. Beyond the shared crediting of 9 credit hours, all graduation requirements of the individual majors apply.

Course Requirements:

GMS 6200	Biochemistry and Molecular and Cellular Biology	5
BSC 6436	Intro to Biotechnology	3
BCH 6888	Bioinformatics	3
GMS 6095	Principles of Intellectual Property	3
GMS 6847	Translational Biotechnology	3
BCH 6070	Biotechnology and Bioethics	3
	Elective from Biotechnology Major	3
GMS 7939	Graduate Seminar	1
EIN 6106	Technology and Law	3
GEB 6115	New Venture Formation	3
GEB 6930	Fund of Venture Cap Priv Equity	3
EIN 6930	New Product Development	3
GMS 6943	Biotechnology Internship (140 contact hrs minimum)	3
GEB 6930	Strategies in Entrepreneurship	3
EIN 6430	Overview of Regulated Industries	3
GEB 6930	Strategies in Market Assessment	3
GEB 645	Social, Ethical, Legal Systems	3
GEB 6116	Business Plan Development	3
GEB 6930	Adv Topics in Entrepreneurship/Internship	3
GEM 7930	Biomedical Ethics	3
GMS 6141	Basic Medical Microbiology/Immunology	3
GMS 6115	Medical Parasitology and Mycology	3
GMS 6110	Microbial Pathogenesis and Host Parasite Interaction	3

COURSES

See <http://ugs.usf.edu/course-inventory>

For more information on individual courses, please see <http://ugs.usf.edu/course-inventory> or contact the department directly: biotech@health.usf.edu

HEALTH INFORMATICS

Master of Science in Health Informatics (M.S.H.I.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall:	February 15
Spring:	October 15
Summer:	February 15

Minimum Total Hours:	32
Level:	Masters
CIP Code:	51.2706
Dept Code:	MED
Major/College Codes:	HIF/MD
Approved:	2013

Concentrations:

 Healthcare Analytics (BHAP)

CONTACT INFORMATION

College: Medicine

Contact Information: www.grad.usf.edu

MAJOR INFORMATION

The Master of Science in Health Informatics degree offers a curriculum that integrates the domains of information science, information resources management and health care organization and management.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- \$65 non-refundable application fee
The breakdown of this fee is as follows:
 - \$30.00 USF's Application Fee
 - \$35.00 Transcript Procurement Fee
- A bachelor's degree from a regionally-accredited university in the biological, chemical, computer or management information sciences or other appropriate field, or the equivalent bachelors and/or graduate degrees from a foreign institution.
- Minimum overall grade-point average of 3.00 out of a possible 4.00 with a minimum grade point average of 3.00 in the sciences
- Transcripts from all colleges and universities attended
- Resume
- Two Letters of Recommendation
- While these are not required, GRE, MCAT or VAT standardized test scores or evidence of substantial health informatics experience can be submitted to enhance an application.
- An example is if a student has a GPA below 3.00 and wishes to prove he will be a positive addition to the school.

Note: F-1 student visa regulations allow students to enroll in only one 3-credit hour online/distance learning course per the official full-time equivalent for the degree level of study. Therefore, the F-1 visa is not appropriate for any major that is offered completing via distance learning or online courses. International students may pursue an online major from outside the US, in which case an I-20 is not required.

Applicants who do not require a visa who are from countries where English is not the official language must demonstrate proficiency in English* in one of the following ways

- By providing scores of 79 or higher on the Test of English as a Foreign Language (TOEFL iBT)
- By providing a score of 6.5 or higher on the International English Language Testing System (IELTS)
- By earning a score of 500 (or equivalent) on the GRE Verbal Exam
- By earning a baccalaureate or higher degree at a regionally accredited institution in the U.S.
- By earning a degree at a foreign institution where English is the language of instruction (must be documented on the transcript)

Proof of Residency

- a. Applicants who are not U.S. citizens, but are residing in the U.S., must provide a copy of a U.S. Visa or permanent resident card.
 - i. The following VISA types **are not eligible** to take classes in these majors:
 - F-1
 - F-2
 - B-1/B-2
 - C (transit visa only)
 - D
 - J-1 student
 - M-1
 - M-2
 - The other categories could be admitted - subject to review of ability to engage in study while in the US.
 - ii. USF cannot issue an I-20 for a student visa to pursue this major. International applicants who do not require a visa and whose current visa status allows study can apply as well as students who intend to take the entire degree from outside the US. Please note the visa waiver major and the B1/B2 visa do not allow study in this type of major.
- b. Applicants who were born outside of the U.S. but are now U.S. citizens are required to submit proof of citizenship (naturalization paperwork or a copy of a passport).

All foreign transcripts that are not in English must be accompanied by a certified English translation and a course-by-course credential evaluation from any National Association of Credential Evaluators, Inc (NACES) or the Association of International credential Evaluators, Inc. (AICE) approved agency certifying equivalency to the U.S. degree. Documents signed by a notary or other public official with no educational affiliation will not be accepted.

CURRICULUM REQUIREMENTS

Total Minimum Hours 32 credit hours

CORE REQUIREMENTS

26 hours

Required Courses (11 hours)

HIM 6667	Foundation in Management Information Systems	3
HIM 6017	Legal Aspects of Health Information Systems	3
ISM 6930	Selected Topics: Health Data Management	3
HIM 6018	e-Healthcare Ethics	2

Students select either the General Pathway or the Healthcare Analytics Concentration:

General Pathway Course Requirements: (15 hours)

HIM 6840	Case Studies in Health Information Management	3
HIM 6118	Introduction to Health Informatics	3
HIM 6350	E-Medicine Business Models	3
HIM 6114	Integrated Electronic Medical Records	3
HIM 6320	Managerial Communications	3

Healthcare Analytics Concentration (15 hours):

HIM 6116	Introduction to Healthcare Analytics	3
HIM 6200	Health Data Visualization	3
HIM 6120	Statistics for Healthcare Analytics	3
HIM 6665	Healthcare Data Mining and Predictive Analytics	3
HIM 6810	Health Outcomes Research	3

Electives**6 hours**

General Pathway Electives (6 hours)

Two or more required:

HIM 6137	Pharmacy Informatics	3
HIM 6943	Health Informatics Internship	3
HIM 6908	Health Informatics Independent Study	3
MHS 6645	Mental Health Informatics	3
PHC 6934	Selected Topics in Public Health: Medical Terminology	3
ISM 6930	Selected Topics in MIS: Health Systems Analysis & Design	3
ISM 6930	Selected Topics in MIS: Health Data Mining	3
PHC 6050	Biostatistics I	3
BCH 6888	Bioinformatics	3

Concentration Electives (6 hours)

Two or more required:

HIM 6668	Healthcare Decision Support	3
HIM 6669	Applied Healthcare Analytics	3
HIM 6908	Health Informatics Independent Study	3
HIM 6670	Advanced Healthcare Analytics Applications	3
HIM 6943	Health Informatics Internship	3
HIM 6930	Medical Terminology in Health Informatics	3

Comprehensive Exam**Internship Project**

For students who select the Internship option, each student will be assigned a faculty director who will oversee the internship project. Students will formally present their projects which will be shared with all major participants.

A minimum of thirty-two (32) semester hours are required and entail a minimum of 480 contact hours

COURSES

See <http://ugs.usf.edu/course-inventory>

MEDICAL SCIENCES

Master of Science in Medical Sciences (M.S.M.S.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall: June 1

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours: 30
Level: Masters
CIP Code: 26.9999
Dept Code: MED
Major/College Codes: MSG MD
Approved: 1983

Concentrations:

Aging and Neuroscience (ANS)
 Anatomy (ANA)
 Biochemistry and Molecular Biology (BMB)*
 Clinical and Translational Research (CTR)
 Health Science (HSC)
 Interdisciplinary Medical Sciences (IMS)
 Medical Microbiology and Immunology
 Metabolic and Nutritional Medicine*
 Molecular Medicine (MLM)
 Women's Health (WSH)

*closed for admissions; not accepting applications

CONTACT INFORMATION

College: Medicine
Department: Medical Sciences

Contact Information: www.grad.usf.edu

Website:
<http://health.usf.edu/medicine/graduatestudies/index.htm>

MAJOR INFORMATION

The major is designed to provide students with advanced training in either Anatomy, Biochemistry, Medical Microbiology, or Pharmacology. Students successfully completing the major will have a foundation that will prepare them for a professional degree in biomedical science such as a M.D. or Ph.D. or qualify them to work as teachers or research assistants in academia or in the private sector. The major will provide a solid core of training in the latest findings, concepts, and experimental techniques. Students will be allowed to individualize their training through elective courses and will have the opportunity to conduct laboratory research. The major is intended for students who wish training beyond a baccalaureate degree but do not wish to commit to a Ph.D. major or do not meet the qualifications required for admissions into a M.D. or Ph.D. major.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- A bachelor's degree or equivalent from a regionally accredited university
- Minimum overall grade-point average of 3.00 out of a possible 4.00 with a minimum grade-point average of 3.00 in the sciences*
- GRE or MCAT

- Completed pre-requisites in:
 - General biology (1 year)
 - General chemistry (1 year)
 - General physics (1 year)
 - Organic chemistry (1 year)
 - Quantitative analysis (1 course)
 - Mathematics including integral and differential calculus

APPLICATION PROCEDURES

Please refer to http://health.usf.edu/medicine/graduatestudies/mscus/apply_domestic.htm?wbc_purpose=Basic

CURRICULUM REQUIREMENTS

Programs of Study are individualized according to the educational and research interests and goals.

Total Minimum hours - 30

Core Requirements

Core Course: (2 hours minimum)

GMS 6871	Health Sciences Ethics	2
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Pre-Professional Track: (30 hours minimum in addition to core requirement)

Students are required to complete the following, chosen in consultation with Graduate Advisor.

GMS 6605	Basic Medical Anatomy	3
GMS 6630	Basic Medical Histology	3
GMS 6201	Basic Medical Biochemistry	3
GMS 6706	Basic Medical Neuroscience	3
GMS 6012	Basic Medical Genetics	3
GMS 6141	Basic Medical Immunology & Microbiology	3
GMS 6433	Clinical Correlations in Molecular Medicine	3
GMS 6440	Basic Medical Physiology	3
GMS 6111	Basic Medical Pathology	3
GMS 6505	Basic Medical Pharmacology	3

Electives Course

GMS 6000	Medical Sciences Success Skills	1-3
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Concentration Options:

Students who prefer to take a Concentration instead of the Pre-Professional Track may choose from the following concentrations. Requirements for each are listed on the following pages:

- Aging and Neuroscience (ANS)
- Anatomy (ANA)
- Athletic Training (ATL)
- Clinical and Translational Research (CTR)
- Health Science (HSC)
- Interdisciplinary Medical Sciences (IMS)
- Metabolic and Nutritional Medicine
- Molecular Medicine (MLM)
- Women's Health (WSH)

CONCENTRATIONS

AGING AND NEUROSCIENCE (ANS)

Neuroscience is one the fastest growing fields of biomedical sciences. There is an increasing demand for health care professionals and research scientists to meet the needs of the increasing number of the aging population affected with neurodegenerative diseases such as Alzheimer's disease. The Aging and Neuroscience concentration within the master's degree program in Medical Sciences has been developed in collaboration with the School of Aging Studies to integrate neuroscience as well as biomedical aging in one-year curriculum. The major is targeted for students interested in pursuing a medical, 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. Classes on research methods, stem cell biology, neuropharmacology and other basic biomedical sciences, as well as several classes offered by the School of Aging Studies are offered as electives. 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. 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.

Concentration Core Requirement:

GMS6020	Neuroscience (Interdisciplinary)	4-6
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Required Courses:

GMS7930	Aging and Neuroscience (Neurosurgery)	3
GMS7930	Neuroscience Seminar Series (Neurosurgery)	1
GEY 6613	Physical Change and Aging (Aging Studies)	3
GMS7910	Aging and Neuroscience Directed Research (neurosurgery)	3-12

All students are required to have a minimum of 20 hours of didactic lectures, and a minimum of 6 hours of directed research. Only students who opt for a research paper must and can accumulate a minimum of 15 hours of directed research and laboratory rotations in their mentor/mentors' laboratories.

Electives

A minimum of 10 credit hours must be fulfilled by COM elective courses.

Morsani College of Medicine Courses

GMS6091	Ethics and Skills in Research (Interdisciplinary)	2
GMS6404	Systems Neurophysiology (Physiology)	4
GMS6602	Neural Correlates of Behavior (Pathology and Cell Biology)	3
GMS6610	Advanced Neuroanatomy (Pathology and Cell Biology)	4
GMS6200	Biochemistry, Molecular & Cellular Biology (Molecular Medicine)	5
GMS7930	Aging/Neuroscience Lab Rotations (Neurosurgery)	3
GMS6735	Neuropharmacology (Pharmacology)	3
GMS7930	Stem Cells in Brain Repair (Neurosurgery)	3
GMS7930	Spec Topics in Alzheimer's Disease (Neurosurgery)	1
NUR6931	Psychoneuroimmunology (Nursing)	3
PCH6050	Biostatistics (Public Health)	3

School of Aging Elective Courses

GEY6600	Human Development	3
GEY5620	Sociological Aspects of Aging	3
GEY6450	Gerontological Research and Planning	3
GEY6614	Psychopathology and Aging I	3
GEY6934	Alzheimer's Diseases Management	3
GEY6616	Mental Health assessment in Older Adults	3

Graduate students must maintain an overall average of 3.00 (B) in all courses.

ANATOMY**Total Minimum Hours -31**

In addition to the Core requirements (GMS 6871 – 2 hrs), students complete:

Concentration Core Requirements (27 hours):

GMS 6323	Pathology Case Studies 1	3
GMS 6604	Human Embryology	3
GMS 6605	Basic Medical Anatomy	3
GMS 6326	Pathology Case Studies 4	3
GMS 6609	Advanced Gross Anatomy	4
GMS 6610	Advanced Neuroanatomy	3
GMS 6630	Basic Medical Histology	3
GMS 7930	Selected Topics: Forensic Pathology	3

Concentration Core Electives: one of the following is required:

GMS 6324	Pathology Case Studies 2	2
GMS 6601	Introduction to Laboratory Medicine	2

Electives (Minimum 2 credit hours):

GMS 6671	A Brief History of Medical Sciences	2
GMS7910	Directed Research	2
GMS 6325	Pathology Case Studies 3	2
GMS 6608	Pathology Case Studies 5	2
GMS 6950	Biomedical Science Communication and Instructional Skills	2

BIOCHEMISTRY AND MOLECULAR BIOLOGY

Contact the department for information - **Closed for admissions; not accepting applications**

CLINICAL AND TRANSLATIONAL RESEARCH (CTR)**Admission Criteria**

This is a one-and-a-half to two-year major of both didactic coursework and mentored research. Admission criteria will be to the Scholars in Patient-Oriented Research (SPOR) Program and include the following:

- Must have a doctoral or first professional degree (M.D., D.O., Ph.D., D.D.S., Pharm.D., Dr.P.T., Doctorate of Nursing Practice, Ph.D. in Nursing, or equivalent degrees)
- GRE score will be waived and replaced by a requirement for documentation of a professional doctorate degree.
- NIH eligibility for the SPOR Program requires U.S. citizenship or status as a non-citizen national or lawfully admitted permanent resident of the U.S.
- Applicants will be required to complete a 2-step application process.
 - For Step 1 to enter the SPOR Program there is an online application.
 - Upon acceptance into the SPOR Program, Step 2 of the application process will consist of completing the standard application procedures to become a graduate degree-seeking student in the Master of Science in Medical Sciences degree program.

Concentration Degree Requirements

Minimum of 32 hours of credit, (23 hours core coursework, 6 hours directed research, and remaining 3 required hours in any combination of directed research and/or elective courses, as needed for each SPOR scholar's particular research focus. In addition, each SPOR scholar will be required to submit a first author manuscript based on his/her research project (not a review article) to a peer-reviewed journal, and that manuscript must be judged by an appointed sub-panel of the SPOR Program Executive Committee and Key Faculty to be potentially acceptable for publication. This latter requirement is in lieu of a thesis requirement.

Coursework:		23 hours
GMS6875	Ethical & Regulatory Aspects of Clinical Research	2
GMS6840	Cultural Influences & Diversity Issues in Clinical Research	2
GMS6844	Special Topics: Principles of Patient-Oriented Research	1
PHC6050	Biostatistics I	3
PHC6000	Epidemiology	3
GMS6841	Fundamentals of Translational and Team Research	1
GMS6843	Scientific Communication	2
BCH6627	Metabolic and Genetic Basis of Disease	3
	or another Basic Science course for 3 credits with approval	
GMS6905	Grantsmanship I	1
GMS6906	Grantsmanship II	1
PHC6020	Design and Conduct of Clinical Trials	3
GMS6921	Colloquium on Building a Successful Academic Patient-Oriented Research Career	1
	Mentored Clinical and Translational Research/Directed Research	6
	Electives/Mentored Clinical and Translational Research/Directed Research	3

HEALTH SCIENCE (HSC)

100% ONLINE. 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 and 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 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 cross the barriers of traditional disciplines and embrace the concepts of interdisciplinary approaches to biomedical problems. The Health Sciences concentration, within the Master's of Science degree program in Medical Sciences, has been developed to provide a new interdisciplinary and concentrated program of study that is designed for students interested in either future doctoral professional programs in the biomedical sciences. The major integrates an array of disciplines, including anatomy, biochemistry, histology, physiology, genetics, microbiology, immunology, pathology, pharmacology and ethics to provide a solid medically-relevant foundation. The rigorous major allows students to demonstrate their full academic ability for future graduate majors or medical school. The interdisciplinary major 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 their academic skills that are critical to their future professional development.

Curriculum

Course Requirements:		32 hours
GMS6605	Basic Medical Anatomy	3
GMS6630	Basic Medical Histology	3
GMS6201	Basic Medical Biochemistry	3
GMS6706	Basic Medical Neuroscience	3
GMS6012	Basic Medical Genetics	3
GMS6141	Basic Medical Immunology & Microbiology	3
MCB6433	Clinical Correlations in Molecular Medicine	3
GMS6871	Health Sciences Ethics	2
GMS6440	Basic Medical Physiology	3
GMS6111	Basic Human Medical Pathology	3
GMS6505	Basic Medical Pharmacology	3

INTERDISCIPLINARY MEDICAL SCIENCES (IMS)

This concentration is designed to provide qualified students with advanced training in the sciences basic to the practice of medicine. Students successfully completing the major with this concentration will have a foundation that fosters opportunities in the private sector, teaching, or the pursuit of further advanced degrees. A goal of this concentration is to provide promising medical school applicants an opportunity to develop the knowledge, skills, and attitudes that would enable them to have a career in the medical sciences. Students who perform well during this major could be considered for admission to medical, graduate, or other health professions majors. This concentration provides an opportunity for students interested in graduate work that has a broad medical base. Students will take courses that will provide the same level of depth, breadth and intensity as those taken by a first year medical student. This will allow successful participants to demonstrate their readiness for the rigors of a medical school curriculum. Alternatively, appropriate selection of elective courses will allow any student who completes the major to tailor their educational experience to best suit their future plans and aspirations.

Admission Information:

Applicants must hold a Bachelor's degree from an accredited institution at the time of entrance into the major. They must have completed at least 1 year each of General Chemistry, Organic Chemistry, General Biology and General Physics and have achieved a total score of at least 22 on the MCAT. Applicants who are deficient in one or more of these requirements, but otherwise meet the College-wide requirements for admission to the Master's Degree may be considered on a case by case basis.

Total Minimum Hours for the MSMS with a concentration in IMS: 31 hours

Core Courses 2 hours

GMS 6871 Health Sciences Ethics 2 credits

Required Concentration Courses: 29 hours

GMS 6418 Musculoskeletal System 3 credits

GMS 6054 Cancer Biology 3 credits

GMS 6004 Introduction to Medical Sciences 5 credits

GMS6707 Medical Neuroscience 6 credits

GMS6411 Cardiovascular and Pulmonary Systems 6 credits

GMS6419 Excretory, Endocrine and Reproductive Systems 6 credits

Elective Courses

Students may select elective courses with the approval of the Graduate Director).

GMS 6110 Microbial Pathogenesis and Host Parasite Interactions 3 credits

GMS 6115 Medical Parasitology and Mycology 3 credits

GMS6141 Basic Medical Microbiology and Immunology 3 credits

GMS7930 Selected Topics 1-3 credits

GMS6908 Medical Sciences Independent Study 1-3 credits

Total minimum hours: 31

MEDICAL MICROBIOLOGY AND IMMUNOLOGY

Core Course 5

GMS6200C Biochemistry, Cell & Molecular Biology 5

Required Courses 17

GMS6100C Medical Microbiology 3

GMS7930 Medical Parasitology and Mycology 2

GMS6101 Molecular and Cell Immunology 3

GMS6107 Adv in Virology 2

GMS6110 Microbial Pathogenesis and Host-parasite Interactions 3

BCH6411 Biomedical Genomics and Genetics 4

Electives		11
Select one course of the following (2 hrs minimum)		
BCH6935	Grant Writing and Scientific Communication	2
BSC6436	Intro to Biotech	3
GMS6876	Current Topics in Molecular Medicine	1
Select one or more from the following (9 hrs minimum):		
GMS7910	Directed Research	3-9
GMS6114	Vaccines and Applied Immunology	2
BCH6135C	Methods in Molecular Biology	4
BCH6420	Clinical Correlations in Molecular Medicine	3
Total minimum hours:		32

METABOLIC AND NUTRITIONAL MEDICINE – *not currently available*

Total Minimum Hours		32
Core Courses (2 hours)		
GMS 6871	Health Sciences Ethics	2
Required Courses:		
GMS6455	Clinical Intensives in Metabolic and Nutritional Medicine	3
GMS6441	Clinical Approach to Endocrinology	3
GMS6543	Diabetes and Coronary Heart Disease	3
GMS6751	Integrated Clinical Neurobiology	3
GMS6451	Nutrition and Metabolism	3
GMS6454	Functional Medicine and Infectious Disease	3
GMS6752	Autoimmune Diseases and Cognitive Function	3
GMS6340	Laboratory Fundamentals and Adjunct Cancer Therapies	3
Electives:		
GMS 6240	Metabolic Approaches to Pediatrics	3
GMS 6550	Introduction to IV Therapies	3
GMS 6310	Toxic Metal and Functional Toxicology	3
GMS 6770	A Metabolic Approach to Pain Management	3
GMS6753	The Basics of Brain Fitness and Memory Management	3
GMS 6331	Stem Cell Biology	3
GMS 6456	Integrated Bariatrics	3
GMS 7930	Selected Topics	3
GMS 6908	Medical Sciences Independent Study	3
GMS7910	Directed Research	3
GMS 6053	Cancer Prevention	3
GMS 6055	Cancer Immunology	3
GMS 6408	Cardiovascular Disease	3
GMS 6410	Cardiovascular Health	3
GMS 6411	Metabolic Cardiology	3
GMS 6709	Neuropsychiatry	3
GMS 6715	Lifestyle Coaching	3
GMS 6716	Nutrition Counseling	3
GMS 6717	Co-Active Coaching	3
GMS 6718	Integrated Lifestyle Medicine	3
GMS 6720	Sports Medicine and Nutrition	3
GMS 6755	How the Brain Learns	3
GMS 6756	Brain Fitness Therapies	3

MOLECULAR MEDICINE (MLM)

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, within the Master's of Science degree in Medical Sciences, 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 majors in the biomedical sciences. The major integrates several disciplines, including biochemistry, molecular biology, genetics, genomics, microbiology, immunology, virology and biomedical ethics to provide a solid medically-relevant foundation. The rigorous major allows students to demonstrate their full academic ability for future graduate majors or medical school. The interdisciplinary major promotes the broad intellectual focus required of future graduate students in the biomedical sciences or health-care profession. The courses integrate modern teaching methods with extensive student participation designed to improve their oral and presentation skills that are critical to their future professional development.

Core requirements:

6 hours

GMS6200C	Biochemistry, Molecular and Cellular Biology	1
BCH6935	Grant Writing and Scientific Communication	2
GMS6100	Medical Microbiology	3

Course Requirements:

BCH6411	Biomedical Genomics and Genetics	4
GMS6101	Molecular and Cellular Immunology	3-4
GMS6110	Microbial Pathogenesis and Host-Parasite Interactions	3
GMS7930	Clinical Correlations in Molecular Medicine	
BCH6627	Metabolic and Genetic Basis of Human Diseases	3
GMS6114	Vaccines and Applied Immunology	

Electives

3

BCH6135C	Methods in Molecular Biology	3
GMS6104	Cellular Immunology	3
GMS6107	Advances in Virology	3
BCH6746	Proteomics and Structural Biology	3
BCH6888	Bioinformatics	3
PHC6050	Biostatistics I	3
BCH6876	Current Topics in Molecular Medicine	3

Total Minimum Hours:

32

WOMEN'S HEALTH (WSH)

This innovative, interdisciplinary concentration, the first in Florida to provide an integrated approach to the subject area of holistic women's health, is designed to develop leaders in the field of women's health. The major, with this concentration, has been constructed to prepare students for future educational or research endeavors in graduate or medical schools or health practice institutions, is designed to fulfill the M.S.M.S. Women's Health Concentration increasing demand for trained individuals in this emerging area, which focuses on gender-specific issues. It is founded on the premise that future health-care providers, researchers and educators will require extensive interdisciplinary training in order to develop novel solutions to current biomedical problems in women's health. The interdisciplinary curriculum has been designed to provide the background training that will equip students with the essential tools for a successful career in the field of women's health.

The major, with this concentration, requires a minimum of 32 credit hours, which can be completed in one year of accelerated and intense study. Core courses provide both foundation and advanced training while electives in such topics as reproductive women's cancers, endocrine mechanisms, clinical nutrition, the business side of medicine and biostatistics, provide students with additional educational opportunities.

Admission Requirements

- A bachelor's degree or equivalent from a regionally-accredited university in the biological or chemical sciences
- Minimum overall grade-point average of 3.00 out of a possible 4.00 with a minimum grade point average of 3.0 in the sciences
- Graduate Record Examination (MCAT scores can be submitted in lieu of the GRE)

Courses**Core Courses:**

GMS 6871	Health Science Ethics	2
GMS 6380	Medicine and Gender	3
GMS7930	Women's Health Lab (1-2 Interd.)	2-3
Elective		2-3 hours
GMS6334	Pathobiology of Human Cancer	3
GMS 6452	Clinical Nutrition	3
PHC6532	Women's Health Issues	3
GMS7910	Directed Research (Women's Health)	3-6 hours Interdisciplinary
Elective		3
PCH 6050	Biostatistics	3
GMS7910	Directed Research (Women's Health)	3-6 hours Interdisciplinary
Elective		5-6 hours

COURSES

See <http://ugs.usf.edu/course-inventory>

MEDICAL SCIENCES

Doctor of Philosophy (Ph.D.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall: February 1

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours: 90
Level: Doctoral
CIP Code: 26.9999
Dept Code: MED
Major/College: MSG MD
Approved: 1974

Concentrations:

Allergy Immunology & Infectious Disease (All)
 Anatomy (ANA)
 Biochemistry and Molecular Biology (BMB) *
 Clinical and Translational Research (CTR)
 Microbiology and Immunology (MMI) *
 Molecular Medicine (MLM)
 Molecular Pharmacology and Physiology (MPY)
 Neuroscience (NEU)
 Pathology and Cell Biology ((PCB)
 Pathology and Laboratory Medicine (PLM)
 Pharmacology and Therapeutics (PAT)
 Physiology and Biophysics (PAB)
 *Closed for admissions; not accepting applications

CONTACT INFORMATION

College: Medicine
Department: Medical Sciences

Contact Information: www.grad.usf.edu

Website:
<http://health.usf.edu/medicine/graduatestudies/index.htm>

MAJOR INFORMATION

The major is designed to provide students with a broad knowledge in the basic medical sciences, while preparing them for careers as effective and knowledgeable teachers, as well as productive and versatile researchers. To meet these objectives, students take courses in the medical sciences and related areas, participate in seminars, and receive individual research training. Departmental advisory committees counsel the entering students in planning their first year curriculum. In addition to course work and participation in seminars, first year students are expected to become familiar with ongoing research in their chosen department; when possible, they are encouraged to work on a part-time basis as research assistants in their department. Once the student selects a major professor, a formal dissertation committee is appointed. The dissertation committee assists the student in planning the research and course of study, evaluates the student's progress, supervises the comprehensive examination, and conducts the final dissertation defense.

By the end of the second year, a student has usually completed sufficient course work and met the other research requirements to take the comprehensive qualifying examination. Successful completion of this examination leads to formal admission to candidacy for the Ph.D. degree. The final phase of the major emphasizes research and independent study and leads to a written dissertation. The Ph.D. degree is awarded upon successful completion and oral defense of the dissertation. Departments within the Morsani College of Medicine may have additional requirements that pertain to their respective training program. Contact the department for information.

Major Research Areas:

Allergy, Immunology and Infectious Diseases Cancer Biology, Cardiovascular Research, Neuroscience & Neurodegenerative Diseases, Diabetes/Metabolic Disorders

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- A bachelor's degree or equivalent from a regionally accredited university
- Minimum overall grade-point average of 3.00 out of a possible 4.00 with a minimum grade-point average of 3.00 in the sciences
- GRE- Graduate Record Examination (preferred at the 70th percentile or above) The GRE may be waived with MCAT scores and Graduate Director approval.
- Completed pre-requisites in:
 - General biology (1 year)
 - General chemistry (1 year)
 - General physics (1 year)
 - Organic chemistry (1 year)
- Three (3) letters of recommendation
- Personal Interview
- One-two page personal statement
- Research experience preferred

Application Procedures

Please refer to http://health.usf.edu/medicine/graduatestudies/phd/apply_phd.htm

CURRICULUM REQUIREMENTS

Total Minimum Hours: 90 hours
(including 24 minimum directed research hours)

All students are required to successfully complete the following didactic courses:

GMS 6001	Foundation in Biomedical Sciences	6
GMS 6091	Responsible Conduct in Research	1
GMS 6094	Experimental Design & Analysis	3
GMS 6002	Success Skills for the Biomedical Science Researcher	1
BCH 6935	Grant Writing & Scientific Communication	2

Students are also required to complete at least one semester of:

GMS 6942	Laboratory Rotations in Biomedical Sciences	1-3
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Each student shall complete a minimum of 24 credit hours of didactic course work (excluding journal clubs, seminars, laboratory rotations, directed research, etc.). In addition to the required courses listed above (13 credit hours), the student shall fulfill the 24 credit hour minimum by completing coursework in their chosen concentration. The student will work with his/her advisory and dissertation committees to choose appropriate courses from the course list for their chosen concentration.

CONCENTRATIONS:**ALLERGY, IMMUNOLOGY & INFECTIOUS DISEASE**

Research and education in the Ph.D. in Medical Sciences major, concentration in Allergy, Immunology & Infectious Disease is focused on interdisciplinary approaches to the study of how the immune system functions properly to rid the body of foreign pathogens and how the immune system can go awry in autoimmunity. The process by which microbes interact with the host to cause disease is also a focus of this major.

ANATOMY**BIOCHEMISTRY AND MOLECULAR BIOLOGY - Closed for admissions; not accepting applications****CLINICAL AND TRANSLATIONAL RESEARCH**

Cardiovascular disease is the leading cause of death, in the United States Atherosclerotic coronary artery disease, valvular heart disease, diseases of the heart muscle, electrical disturbances of the heart rhythm, high blood pressure, stroke, and peripheral vascular disease all contribute to this morbidity. According to current estimates, coronary heart disease, high blood pressure, congestive heart failure and stroke affect nearly 58 million Americans. The USF Signature Interdisciplinary Program in Cardiovascular Research is a comprehensive program that brings together resources in heart care, research and education to fight against cardiovascular disease. Clinicians and researchers at USF are working to improve our knowledge of cardiovascular disease in order to develop new methods of prevention and treatment that will make a difference in the lives of patients with cardiovascular disorders.

MEDICAL MICROBIOLOGY AND IMMUNOLOGY - Closed for admissions; not accepting applications**MOLECULAR MEDICINE**

Research and education in the Ph.D. in Medical Sciences major, concentration in Molecular Medicine is focused on interdisciplinary approaches to the study of bacteriology, biochemistry, immunology, molecular biology and virology as it relates to human health and disease such as allergy and immune dysfunction, cancer, cardiovascular disorders, infectious diseases and inheritable defects. Training will include a unique interdisciplinary blend of didactic coursework, journal clubs, seminar series, as well as significant research experience.

MOLECULAR PHARMACOLOGY & PHYSIOLOGY

Research and education in the Ph.D. in Medical Sciences major, concentration in Molecular Pharmacology and Physiology is focused on interdisciplinary approaches to the study of the nervous and cardiovascular systems and related disorders, including Alzheimer's disease and other neurodegenerative disorders, cardiovascular disease and stroke, diabetes, and neuropsychiatric disorders such as depression and drug addiction. Training will include a unique interdisciplinary blend of didactic coursework, journal clubs, seminar series, as well as significant research experience.

NEUROSCIENCE

Research and education in the Ph.D. in Medical Sciences major, concentration in Neuroscience is focused on interdisciplinary approaches to the study of the nervous systems and related disorders, including Alzheimer's disease and other neurodegenerative disorders, stroke, and neuropsychiatric disorders such as depression and drug addiction. Areas of expertise include biochemistry and cellular and molecular neuroscience, neural systems and computational neuroscience, behavioral neuroscience, developmental neuroscience, neuroimmunology, and neuropsychopharmacology, among others. Students are encouraged to carry out research during their entire period of study. Training will include a unique interdisciplinary blend of didactic coursework, journal clubs, seminar series, as well as significant research experience. The interdisciplinary structure permits considerable flexibility in training; each student's training is tailored to meet individual requirements.

PATHOLOGY & CELL BIOLOGY

Research and education in the Ph.D. in Medical Sciences major, concentration in Pathology & Cell Biology is focused on interdisciplinary approaches to the study of cancer, reproductive pathobiology, neurological disease & injury and related diseases, including cancer biology, angiogenesis and morphogenesis, gene discovery, neurobiology, cell biology and new educational technologies.

PATHOLOGY AND LABORATORY MEDICINE

PHARMACOLOGY AND THERAPEUTICS

PHYSIOLOGY AND BIOPHYSICS

Electives

Some of the electives include:

BCH 6746 Structural Biology	3
GMS 6115 Medical Parasitology & Mycology	3
GMS 6708 Neuroimmunology	3

Dissertation

COURSES

See <http://ugs.usf.edu/course-inventory>

MEDICINE

Doctor of Medicine (M.D.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:
 Fall November 14

International applicant deadlines:
<http://www.grad.usf.edu/majors>

Minimum Total Hours: Four Year Program
Level: Doctoral Professional
CIP Code: 51.1201
Dept Code: MD
Major/College Codes: MED MD

CONTACT INFORMATION

College: Medicine
Department: MD

Contact Information:
www.health.usf.edu/medicine/mdprogram

The Morsani College of Medicine offers a traditional medical program and a parallel program that give you a choice of emphasis and geographical focus.

The [CORE program](#) is based in Tampa for four years and features a strong preclinical integrated curriculum with small group and engaged learning emphasis, integrated clerkships, and year 4 career tracks that prepare you for the residency of your choice. The [Scholarly Concentration](#) option allows you to focus and develop yourself in an area of interest outside the normal curriculum in fields such as Health Care Disparities, Engineering, Business, and Medical Education.

The [SELECT program](#) is based in Tampa (2 years) and Lehigh Valley, Pennsylvania (2 years). It has the same integrated curriculum focus as the CORE program, but also offers additional training in Leadership, Health Systems, and Values-Centered Patient Care, all important domains for developing medical leadership. This increased emphasis on leadership (in one on one coaching, small groups, seminars) is a focused alternative to the Scholarly Concentration program for students who want to focus on developing their medical leadership skills.

Major Research Areas

Biomedical research
 International Medicine
 Medical Education
 Health Systems
 Health Disparities

Admission Information

Admission Requirements:

Students applying for admission to the USF Morsani College of Medicine (MCOM) M.D. degree program must complete the requirements for a bachelor's degree at a regionally accredited U.S. university or college by the time of matriculation. In addition, all prerequisites must be completed from a U.S. regionally accredited institution by the time of matriculation into the MCOM. Required coursework may not be taken as Pass/Fail or online. Applicants who are currently pursuing a graduate or professional degree are obligated to complete all degree requirements prior to matriculation into the M.D. degree program.

- AMACS Primary Application
- Secondary Application with program selection
- Bachelor's Degree (from U.S. regionally accredited institutions only)
- Pre-professional committee evaluation or three faculty letters of recommendation
- Two personal / character letters of recommendation
- Personal Statement
- Interview
- Completion of prerequisite courses
- Medical College Admissions (MCAT)
- Residency – must be either a U.S. Citizen or Permanent Resident of the U.S.

Curriculum Requirements:

Required Core Curriculum Descriptions

Doctoring 1-3

A three-year small group-based sequence that teaches students interviewing, physical diagnosis, and differential diagnostic skills; bioethics, medical humanities, health systems and economics; community, preventive, and public health. Introduces care of special populations including the disabled.

Evidence-based Clinical Reasoning 1-2

A two-year sequence first introducing students to principles of statistics and evidence-based medicine, then applying that knowledge in small group based problem based learning (PBL) cases in which students research topics relevant to the presented cases and teach their small group peers what they learned. The course emphasizes evidence-based and lifelong learning principles.

Year 1-2 Medical Science Courses

Years 1 and 2 of the curriculum are a continuum that introduce students to an organ system-based overview of normal and disease processes, increasing the emphasis on diseases and therapy as the courses progress. Courses integrate anatomy, physiology, pathophysiology, cell biology, biochemistry, microbiology and pharmacology relevant to the organ systems under study.

- **Course 1: Musculoskeletal System** - dissection based anatomy of the back and extremities; physiology and biochemistry of muscle contraction
- **Course 1: Cancer biology** - a review of important tenets of molecular/cellular biology, genetics and immunology from the perspective of cancer pathogenesis and treatment.
- **Course 2: Neurologic System** - structure and function of the central and peripheral neurologic system
- **Course 3: Cardiovascular and Pulmonary Systems** - normal function, common abnormalities, and structural anatomy of the heart, lungs and vessels; components and physiology of blood.

- **Course 4: Renal, Endocrine, Gastrointestinal, and Reproductive Systems** - integrated histology, physiology and gross anatomy of these systems; biochemistry and physiology of metabolism.
- **Course 5: Immunology, Microbiology, Hematology, Rheumatology, Dermatology** - principles of immune host defense, microbial pathogenesis; autoimmunity/rheumatologic diseases; diseases of blood and skin.
- **Course 6: Nephrology, Pulmonary Disease, Cardiology, Gastroenterology** - pathophysiology, pathology, and pharmacology for diseases of kidneys, lungs, heart/vessels, liver, and GI tract.
- **Course 7: Neurology, Psychiatry, Endocrinology, Men's and Women's Health** - diseases and therapy of the brain and peripheral nervous system, endocrine system, male and female reproductive tracts; psychiatry, including psychiatric interviewing.

Colloquium 1-2

Selective seminars in several areas of the students' choice (e.g. advances in radiology, sun and skin, neurosurgery principles, etc.) designed to give the students elective choice in developing career plans. Taken twice, once per year.

Year 3 Clinical Clerkships

MCOM clinical clerkships in Tampa emphasize integrative process of patient care from a patient perspective, vs. the traditional departmental-based approach. Multiple departments interact to deliver the curriculum at core clinical sites including Tampa General Hospital, Haley VA Medical Center, All Children's Hospital, and Morsani Center for Advanced Patient care. The year includes 4 weeks of elective time of the student's choice to explore non-clerkship career options or do research.

- **Primary Care** - outpatient care in Family Medicine, Internal Medicine, Pediatrics, and Women's Health/Gynecology, emphasizing management of common chronic diseases and prevention strategies.
- **Adult Medicine** - inpatient care of acute adult illness
- **Surgical Care** - principles of pre-, intra-, and post-operative care, with rotations in general, trauma, vascular, and gynecologic surgery. Includes selective rotations in surgical subspecialties and simulation training at the Center for Advanced Medical Learning and Simulation (CAMLS) in downtown Tampa.
- **Psychiatry and Neurology** - diagnosis and therapy of neurologic and psychiatric illness in the inpatient and outpatient settings. Shared approaches to patients with altered mental state.
- **Maternal, Newborn, and Pediatric Care** - Obstetrics, prenatal care, labor and delivery, newborn nursery, inpatient pediatric care

Year 4 Electives/Selectives

Year 4 is focused on preparation for residency, building advanced clinical skills, and exploration of areas of medicine of interest to the student. Nine months of coursework are required, including:

1. Four months of work in a track that prepares students for a specific residency discipline, including:
 - a. An Acting Internship with direct patient management responsibility (1 month)
 - b. A return to basic science in the discipline of the track, involving both clinical and basic science approaches to the discipline (2-4 weeks)
 - c. 1-2 months of specialty, consultative, or other selectives
2. Five months of additional coursework, which may include independent study electives, externships at other approved medical centers, and additional electives of the student's choice.

SELECT Program Overview

Building Leadership Competencies and Emotional Intelligence

The USF Health Morsani College of Medicine SELECT program (Scholarly Excellence. Leadership Experiences. Collaborative Training.) prepares students to be physician leaders who can accelerate change in health care. The program recruits and develops students with the intellectual perspective, empathy, creativity and passion to change patient care, the health of communities and the medical profession. The founding principle of SELECT is the concept that students with high emotional intelligence are more likely to develop the skills needed to transform health care and improve the health of communities. In essence: students with a strong foundation in emotional intelligence will become more engaged, compassionate physicians who will connect deeply with their patients and their patients' families; feel more comfortable with and be more effective as team leaders and team members; and have the relationship building skills and systems perspectives to more effectively lead change in health care organizations.

One of the most distinctive features of SELECT is the opportunity for medical students to shape their educational experiences at both a highly progressive, student-centered medical school, the USF Morsani College of Medicine in Tampa, FL, AND at one of the country's top health networks known for its quality, safety, and lean approach to driving efficiency in healthcare, the Lehigh Valley Health Network in Allentown, PA. The first class was admitted in 2011, and 56 students are now admitted annually. Students admitted to SELECT spend their first two years taking classes at the USF Morsani College of Medicine in Tampa, and then go to Lehigh Valley Campus for two years of clinical education. Students admitted to SELECT develop leadership skills that will arm them with the knowledge, resources, and network to change the healthcare landscape for the better. These include:

- Making a difference in the lives of patients, peers, community, and hospitals.
- Applying continuous improvement approaches to optimize healthcare quality, patient safety, and efficient use of resources.
- Building resilience to operate efficiently in complex health systems.
- Acquiring tools to become a change catalyst.
- Becoming a driving force for the evolution of healthcare quality.

MEDICINE AND MEDICAL SCIENCES

Concurrent Degrees

Doctor of Medicine (M.D.) / Doctor of Philosophy (Ph.D.)

DEGREE INFORMATION

Refer to individual Majors for deadlines

Minimum Total Hours:	90
Level:	Doctoral
CIP Code:	26.9999
Dept Code:	MED
Major/College:	MED MD / MSG MD

Concentrations:

- Allergy Immunology & Infectious Disease (All)
- Anatomy (ANA)
- Biochemistry and Molecular Biology (BMB)*
- Clinical and Translational Research (CTR)
- Microbiology and Immunology (MMI)*
- Molecular Medicine (MLM)
- Molecular Pharmacology and Physiology (MPY)
- Neuroscience (NEU)
- Pathology and Cell Biology ((PCB)
- Pathology and Laboratory Medicine (PLM)
- Pharmacology and Therapeutics (PAT)
- Physiology and Biophysics (PAB)

* Closed for admissions; not accepting applications

CONTACT INFORMATION

College:	Medicine
Department:	Medicine/Medical Sciences
Contact Information:	www.grad.usf.edu

MAJOR INFORMATION

The combined MD/PhD concurrent degree is designed to provide well-qualified students who are interested in careers in translational medicine with a broad knowledge in the basic biomedical and clinical sciences that is integrated with the advanced experimental training that is critical for their development as productive and versatile researchers. To meet these objectives, student's complete courses in both the basic and clinical sciences, participate in patient-care activities and seminars, and receive individual research training in one of the many research concentrations available within the College. Graduate advisory committees counsel the entering students on planning their curriculum and selecting a research mentor. During the first two years, students complete the basic science course work and participation in research rotations that assist in the selection of a dissertation mentor. Following the successful completion of the second year of medical training and the selection of a major professor, a formal dissertation committee is appointed which assists the student in planning the research and course of study, evaluates the student's progress and supervises the comprehensive examination.

The successful completion of this examination leads to formal admission to candidacy for the PhD degree. The remainder of this phase of the major emphasizes research and independent study and leads to a written dissertation and its oral defense. Following the completion and defense of their PhD dissertation, students embark on the final two years of their medical training. The major culminates in the award of both MD and PhD degrees. Departments within the Morsani College of Medicine may have additional requirements that pertain to their respective portions of the training program. Contact the department for information.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements of the Morsani College of Medicine MD and PhD majors, listed below.

Student applications must be submitted through AMCAS.

- A bachelor's degree or equivalent from a regionally accredited university
- Minimum overall grade-point average of 3.70 out of a possible 4.00 with a minimum grade-point average of 3.7 in the sciences
- Medical College Admissions Test score of 30 (The MCAT substitutes for the GRE).
- Completed pre-requisites in:
 - General biology (1 year)
 - General chemistry (1 year)
 - General physics (1 year)
 - Organic chemistry (1 year)
 - Quantitative analysis (1 course)
 - Mathematics including integral and differential calculus
- Three (3) letters of recommendation
- Interview
- One-two page personal essay

CURRICULUM REQUIREMENTS

Total Minimum Hours

90

Contact departments for complete information. Degree requirements are individualized according to research interests and goals. Ninety credit hours minimum including 24 minimum directed research hours.

COURSES

See <http://ugs.usf.edu/course-inventory>

MEDICINE AND PUBLIC HEALTH

Concurrent Degrees:

Doctor of Medicine (M.D.) and Master of Public Health (M.P.H)

DEGREE INFORMATION

Refer to individual Majors for deadlines

Minimum Total Hours: 42 (MPH), 369 (MD)

Total hours shared: 9 credit hours

Level: Masters/Doctorate

CIP Codes: 51.2201 / 51.1201

Dept. Codes: Refer to the Major

Majors/Colleges: MPH/PH, MD/MD

CONTACT INFORMATION

Colleges: Public Health and Medicine

Contact Information: www.grad.usf.edu

MAJOR INFORMATION

The concurrent MPH/MD degree provides a unique opportunity for medical students who are interested in blending their field of medicine with the discipline of public health. The students recognize the value of inter-professional education within health as well as the professional opportunities that require dual skill sets.

The two majors review applicants independently and admission to one major in no way guarantees admission into the other major. Medical students must be admitted and in good standing when applying for the MPH degree. Upon completion of all requirements for the concurrent degree, the student submit separate applications for graduation. Both (MPH and MD) degrees are certified individually by each college prior to graduation. Students receive two diplomas.

Accreditation:

The College of Public Health is fully-accredited by the Council on Education in Public Health.

ADMISSION INFORMATION

Applicants must meet University Admission Requirements (see Graduate Admissions section) and USF Medical School admission requirements. Refer to the individual listings for the MPH and MD for admission requirements specific to the major.

CURRICULUM REQUIREMENTS

For specific information on the requirements for the major, please refer the Catalog listing for that major.

M.P.H. in Public Health – total minimum hours - 42

M.D. in Medicine – total minimum hours – 369 (*the MD is a 4-year professional major*)

411 Total hours, with 9 credit hours shared, resulting in total combined: 402 hours

Shared Courses: The following courses are approved to be shared with both majors:

Transferred from MD degree

BMS 5005 Professions of Health 2 credits

BMS 6825 Doctoring I 7 out of 12 credits

For all other curriculum requirements, including Thesis/non-Thesis, Internship, Comprehensive Examination, etc., refer to the Catalog listing for that major.

PHYSICAL THERAPY

Doctor of Physical Therapy (D.P.T.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:	
Summer:	November 15
Level:	Doctoral Professional
CIP Code:	51.2308
Dept Code:	PHT
Major/College:	MPT MD

CONTACT INFORMATION

College	Morsani College of Medicine
Department	School of Physical Therapy and Rehabilitative Sciences
Contact information	http://dpt.health.usf.edu/

MAJOR INFORMATION

As an integral part of the USF College of Medicine and USF Health system, the School of Physical Therapy & Rehabilitation Sciences offers you top-notch classroom and clinical experience in your entry-level preparation as a physical therapy practitioner.

Our innovative, integrated, interprofessional Doctor of Physical Therapy (DPT) curriculum, which places physical therapy students alongside medical students in foundational basic and clinical science courses during year 1 of studies, is one of the many reasons students are choosing to come to Tampa for their professional education. The School of Physical Therapy & Rehabilitation Sciences boasts an impressive and broadly experienced cadre of faculty who are engaged in teaching as well as scholarly and research activities contributing to our discipline's body of knowledge. As part of USF Health, our Doctor of Physical Therapy students receive instruction from physicians, nurses, public health professionals and basic science experts. Teaching and learning together form the basis for future successful collaborative practice so necessary in today's healthcare environment.

The major begins a new cohort each July.

Accreditation

Accredited by [Commission on Accreditation in Physical Therapy Education](#) (CAPTE)

ADMISSION INFORMATION

Completed applications of qualified students with all supporting documentation, received by PTCAS by November 15 will be reviewed by the School of Physical Therapy and Rehabilitation Sciences DPT Student Selection Committee. The most qualified applicants will be offered enrollment as a member of the next DPT Class. Letters of offer will be mailed to selected students on or about February 1. A Waiting List will be maintained of otherwise qualified applicants in the event that a class opening should occur.

- You must be a U.S. Citizen or Permanent Resident Alien (PRA) with a Green Card in your possession before we will consider your application;
- Minimum 3.20 (out of 4.00) GPA overall and in upper division and prerequisite coursework;
- Note: Level of prerequisite courses must be appropriate for science majors, and must have been completed within five (5) years of date of matriculation;
- Twenty (20) total volunteer, observational or employment hours experience with a minimum of 8 hours in each type in order to appreciate the differences in physical therapists' responsibilities in each setting. Hours must be documented observational, volunteer or other work experiences in both hospital inpatient and outpatient physical therapy settings;

- Two References from Licensed Physical Therapists with knowledge of the applicant's aptitude and potential for success in professional school
- Application to be completed through PTCAS

CURRICULUM REQUIREMENTS

The DPT degree program is a 3 calendar year program including two summers.

Core Course Requirements

Year 1 (36 weeks)

	Course Name	Credits
BMS 5005	Professions of Health	1
BMS 6206	Medical Biochemistry	1
BMS 6640	Medical Science 1: Musculoskeletal System	6
BMS 6641	Medical Science 2: Neuroscience	6
BMS 6633	Medical Science 3: Cardiovascular & Pulmonary Systems	6
BMS 6639	Medical Science 4: Excretory & Reproductive Systems	6
PHT 6174	Movement Science 1 (total lab hours including enhanced anatomy=30)	2
PHT 6205	Doctoring for Physical Therapists (Pass/Fail)	6
PHT 6274	Clinical Reasoning for Physical Therapists	5
PHT 6284	Scientific & Professional Foundations of Physical Therapy 1 (lab=60 hrs)	5
PHT 7864	Integrated Clinical Experience 1	1

Year 2 (42 weeks)

Fall 2	Contact hours @ 19 weeks = 26.6	
PHT 6178	Movement Science 2	3
PHT 6285	Scientific & Professional Foundations of Physical Therapy 2	3
PHT 6352	Pharmacology for Healthcare Professionals	4
PHT 6609	Critical Assessment of the Literature/EBP	3
PHT 7264	Neuromuscular Clinical Problem Solving	3
PHT 7265	Cardiopulmonary & Integumentary Clinical Problem Solving (year-long, concludes in Spring)	0
PHT 7421	Professional Issues 1	2
PHT 7540A	Principles of Patient/Client Management & Seminar 1	1
PHT 7866	Integrated Clinical Experience 1	1
Spring 2	Contact hours @ 15 weeks = 22.7	20
PHT 7265	Cardiopulmonary & Integumentary Clinical Problem Solving (year-long, continued from Fall)	3
PHT 7328	Pediatric Physical Therapy	3
PHT 7402	Psychosocial Aspects of Physical Therapy Practice	3
PHT 7531	Professional Issues 2	3

PHT 7540B	Principles of Patient/Client Management & Seminar 2	2
PHT 7777	Musculoskeletal Clinical Problem Solving	4
Summer 2	Contact hours @ 8 weeks = 40	20
PHT 6841	Clinical Education 1 (10 weeks @ 40 hours)	5

Year 3 (43 weeks)

Fall 3	Contact hours @ 15 weeks = 26.5	
PHT 7151	Health Promotion and Wellness	2
PHT XXXX	Seminar: Contemporary Issues in Physical Therapy	3
PHT 8179	Movement Science 3	3
PHT 8266	Advanced Clinical Problem Solving	5
PHT 8550	Professional Issues 3	3
PHT 8702	Prosthetics and Orthotics	3
*	Optional Elective	3
Spring / Summer 3		20
PHT 7842	Clinical Education 2 (12 weeks @ 40 hours)	6
PHT 8843	Clinical Education 3 (16 weeks @ 40 hours)	8
	Graduation in August of Year 3	122

Comprehensive / Qualifying Exam information

Licensure Examination following graduation and prior to initiating practice – the National Physical Therapy Examination (NPTE)

PHYSICAL THERAPY AND PUBLIC HEALTH

Concurrent Degrees

Doctor of Physical Therapy (D.P.T.) and Master of Public Health (M.P.H.) Degree

DEGREE INFORMATION

Refer to individual Majors for deadlines
Rolling Admissions. One class admitted each August.

Minimum Total Hours: Contact departments
Level: Professional/Masters
Status: Active
CIP Codes: 51.2308/
Dept Code: PHT/
Major/College Codes: MPT MD

CONTACT INFORMATION

Colleges: Medicine and Public Health
Departments: School of Physical Therapy and
Rehabilitation Sciences and
Public Health

Contact Information: www.grad.usf.edu

MAJOR INFORMATION

Physical therapists are health professionals with special expertise in the science of movement. They use this knowledge to provide preventive and therapeutic services and psychological support to people of all ages with movement dysfunction. Professional education includes study of basic sciences and the professional skills needed for client examination, evaluation, diagnosis, prognosis, intervention and outcomes. Students will participate in comprehensive clinical internships throughout the major. The School of Physical Therapy and Rehabilitation Sciences is a component of the Morsani College of Medicine and is a limited access first professional degree program with an annual enrollment of up to 36 students per year. Students complete the majority of their first year studies on a parallel path with the first year curriculum in medicine.

The Doctor of Physical Therapy is offered through the USF Medical School in the Morsani College of Medicine. For information regarding the DPT contact the School of Physical Therapy and Rehabilitation Sciences.

The Master of Public Health is offered through the USF College of Public Health. For information regarding the MPH contact the College of Public Health Graduate Studies office.

Accreditation:

Accredited by the Commission on Accreditation in Physical Therapy Education.

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- Have a bachelor's degree or equivalent from a regionally accredited university, and completion of prerequisite courses.
- Have earned a "B" (3.00 on a 4.00 scale) average or better in all work attempted while registered as an upper division student working for a baccalaureate degree; overall GPA of 3.00 and on all prerequisite coursework.
- Interview upon request of the School of Physical Therapy and Rehabilitation Sciences.
- Have at least 20 total hours of documented, observational, volunteer or other work experience in both hospital outpatient and inpatient physical therapy settings

- English competency. Applicants who have completed a degree in which English is not the primary language of instruction must present evidence of competency to pursue studies in the English language prior to being extended an offer of admission. Acceptable English language proficiency tests for applicants to the Doctor of Physical Therapy degree program are: TOEFL (Test of English as a Foreign Language) a minimum score of 600 (paper version); 230 (computer version).
- Have a written autobiographical statement of personal values and purpose for attending USF's DPT Degree Program.

CURRICULUM REQUIREMENTS

Contact Colleges for complete information.

Students must complete 107 credit hours of professional coursework and meet the general graduate requirements of the School of Physical Therapy and Rehabilitation Sciences, the Morsani College of Medicine, and the College of Public Health for admission and graduation.

COURSES

See <http://ugs.usf.edu/course-inventory>

PHYSICIAN ASSISTANT STUDIES

Master of Physician Assistant Studies (M.P.A.S.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Spring April
(Contact department for exact date)

Minimum Total Hours: 90

Level: Masters

CIP Code: 51.0912

Dept Code: MPA

Major/College: MPA / MCOM

Approved Effective Fall 2016

CONTACT INFORMATION

College: Morsani College of Medicine

Department Physician Assistant Program

Contact information

www.health.usf.edu/medicine/pa/

MAJOR INFORMATION

The goal of the USF PA Major is to prepare its graduates to deliver high-quality, evidence-based, patient-centered health care. This is accomplished through a robust, systems-based curriculum. The major (delivered over 24 continuous months) begins with a rigorous 12-month phase in basic and medical sciences. Educational methodologies include traditional lecture, clinical simulation, team-based problem solving, and hands-on laboratory learning experiences – often delivered with students from other USF health students. The 12-month clinical phase follows and students engage in approximately 2300 hours of supervised clinical practice experiences. Students will participate in the following five week, core clinical clerkships: Internal Medicine, Family Medicine, Pediatrics, Surgery, Emergency Medicine, Women’s Health, Behavioral and Mental Health, and two elective clerkships. Upon successful completion of the two-year curriculum, the student is awarded the Master of Physician Assistant Studies degree. The graduate is then eligible to sit for the Physician Assistant National Certifying Exam (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA).

Accreditation

The ARC-PA has granted Accreditation - Provisional status to the USF Morsani College of Medicine Physician Assistant Program sponsored by the University of South Florida. Accreditation-Provisional is an accreditation status granted when the plans and resource allocation, if fully implemented as planned, of a proposed major that has not yet enrolled students appear to demonstrate the degree program’s ability to meet the ARC-PA Standards or when a program holding Accreditation-Provisional status appears to demonstrate continued progress in complying with the Standards as it prepares for the graduation of the first class (cohort) of students.

Accreditation-Provisional does not ensure any subsequent accreditation status. It is limited to no more than five years from matriculation of the first class.

Admission Information

All applicants to the USF MCOM PA major must apply through the Central Application Service for Physician Assistants (CASPA).

Degree, GPA and GRE

- Baccalaureate Degree from a U.S. regionally accredited College or University. (Baccalaureate degrees must be completed by the Fall semester prior to matriculation.)
- Overall GPA of 3.0 and Science GPA of 3.0; Minimum Upper Division Grade Point Average of 3.0
- Graduate Record Examination (GRE) Test is required– official scores are required and must be from tests taken within the past five years. The Admissions Committee will evaluate your most recent set of GRE scores.

- Applicants MUST meet a minimum GRE score at or above the 50th percentile in all components of the examination to be considered eligible for an interview.
- GRE Scores are to be sent directly by ETS to CASPA code 8854.
- Degree and prerequisite coursework taken outside of the U.S. is not accepted (regardless if made equivalent by a U.S. institution).
- Transfer credit or Admission with Advanced Standing from another PA major is not accepted. All curriculum requirements for the major are required for graduation and must be completed at the USF PA major.

Prerequisites

- Mathematics – 6 Credit Hours
- Statistics – 3 Credit Hours
- Biology with Laboratory – 4 Credit Hours
- Microbiology with Laboratory – 4 Credit Hours
- Chemistry with Laboratory – 8 Credit Hours
- Organic Chemistry with Laboratory – 4 Credit Hours
- Biochemistry – 3 Credit Hours
- Anatomy & Physiology with Laboratory – 8 Credit Hours
- Medical Terminology – 3 Credit Hours
- English – 6 Credit Hours
- Humanities – 3 Credit Hours
- Social Sciences – 9 Credit Hours

Experience in Healthcare Setting

- A minimum of 500 hours of direct patient care experience in a health care setting must be completed prior to application. Examples of direct patient care experiences may include but not limited to: EMT, Paramedic, Medical Assistant, Nurse, Surgical Technician, Athletic Trainer, and Physical Therapy Aide.
- Shadowing experiences are not accepted as direct patient care.
- Applicants will submit verifiable information regarding their health care experiences on CASPA.

Letters of Recommendation

- Three letters of recommendation are required.
- Letters should be from Physicians, Physician Assistants, Nurse Practitioners, Research Mentors, Professors, Volunteer Coordinators/Supervisors who had direct interaction with the applicant and can attest to his/her qualities, strengths and suitability for a career as a Physician Assistant.
 - One letter of a recommendation must be from someone who supervised the applicant in a clinical setting.
 - Letters should not be from a peer or family member.

Residency

- U.S. Citizen or Permanent Resident Alien
 - Permanent Resident Alien must possess a valid Green Card at the time of application. Documentation will be required.
- [In State or Out of State](#) for tuition purposes
 - To qualify for in state tuition, proof of residency for the 12 months preceding matriculation is required.
 - For more information, please visit our [General Classifications Procedures page](#).

Curriculum Requirements:

Total minimum hours required: (if doctoral, are these post-bacc or post-masters)

Curriculum for Year 1**Summer – 18 Credits**

Course Name	Credits
Anatomy I	2
Pathophysiological Basis of Disease I	3
Clinical Medicine I	5
Clinical Pharmacology I	3
Physical Diagnosis I	2
Role of the Physician Assistant in American Healthcare	1
Clinical Laboratory and Diagnostics I	2

Fall – 18 Credits

Anatomy II	2
Pathophysiological Basis of Disease II	3
Clinical Medicine II	5
Clinical Pharmacology II	3
Physical Diagnosis II	2
Biostatistics and Epidemiology: An Introduction to Clinical Research	1
Clinical Laboratory and Diagnostics II	1
Basic Medical Genetics	1

Spring – 17 Credits

Clinical Medicine III	8
Advanced Clinical Pharmacotherapeutics	3
Clinical Skills and Procedures	2
Evidence-Based Medicine	1
Behavioral Medicine	2
Cultural Issues in Healthcare	1

Curriculum for Year 2

Course Name	Length of Clerkship Weeks	Credits
Capstone Research Project		1
Internal Medicine	5	4
Surgery	5	4
Pediatrics	5	4
Family Medicine	5	4
Women's Health	5	4
Emergency Medicine	5	4
Behavioral and Mental Health	5	4
Elective	10	8

Core Course Requirements

All courses above.

Electives

Students chose clinical electives in year two of the major.

Comprehensive Exam

Capstone Research Project

The major culminates in a required capstone research project. The goal of the capstone research project is to develop competency in the critical appraisal of research and the application of the best evidence to patient care, health policy, and advocacy; ultimately resulting in improved patient outcomes.

Internship

Other

Upon graduation, the MPAS graduate will be eligible to sit for the Physician Assistant National Certifying Exam (PANCE) administered by the National Commission on Certification of Physician Assistants (NCCPA).

REHABILITATION SCIENCES

Doctor of Philosophy (Ph.D.) Degree

DEGREE INFORMATION

Priority Admission Application Deadlines:

Fall	June 1
Spring	October 15
Summer	No Admission

International applicant deadlines:

<http://www.grad.usf.edu/majors>

Minimum Total Hours:	66
Level:	Doctoral
CIP Code:	51.2314
Dept Code:	SPTRS
Major/College Codes:	RHS/MD

Concentrations

Veteran's Health/Reintegration (VHR)
 Chronic Disease (CHD)
 Neuromusculoskeletal Disability (NMD)

CONTACT INFORMATION

College: Medicine
 Department: School of Physical Therapy and
 Rehabilitation Sciences

Contact Information:

www.grad.usf.edu

<http://health.usf.edu/medicine/dpt/>

MAJOR INFORMATION

The Ph.D. in Rehabilitation Sciences will prepare faculty researchers and leaders with content expertise in rehabilitation sciences who will contribute to the development of rehabilitation practice, research and education in an emerging 21st century health care environment. Graduates of the Ph.D. in Rehabilitation Sciences are expected to demonstrate advanced knowledge and productivity relative to one area of concentration: Veteran's Health/Reintegration, Chronic Disease, or Neuromusculoskeletal Disability. Students will complete a core set of rehabilitation sciences courses, statistics/research methodology courses and then select an area of content expertise where independent research will be conducted.

Major Research Areas:

Rehabilitation Science, Veteran's Health/Reintegration, Chronic Disease, Prosthetics, Neuromusculoskeletal Disability, Physical Therapy

ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements for admission to the major, listed below.

- At least a Master's degree or first-professional doctoral degree in a rehabilitation or rehabilitation sciences related discipline
- Minimum of 3.00 GPA or equivalent in prior graduate and/or professional degree studies
- GRE required, with preferred minimum scores of 70% V, Q, AW
- Interview to determine professional goals
- Three Letters of Recommendation
- Personal Statement – in 750 to 1000 words, state your professional plans and career objectives (Goal statement). Please include personal qualifications, qualities and professional development and how they have influenced your career path; reasons for this particular degree in relation to academic background, professional work experience, and career goals. Describe prior experiences and accomplishments in a rehabilitation or rehabilitation sciences related discipline.
- Curriculum Vitae
- The Test of English as a Foreign Language (TOEFL/iBT) with a score of 79 or higher or the International English Language Testing System (IELTS) with a score of 6.5 will be required for international students from countries where English is not the official language, at the discretion of the Admissions Committee.

CURRICULUM REQUIREMENTS

Total Minimum Hours:

66 credit hours (post-masters)

Core Requirements

15 hours

RSD 6111 Introduction to Rehabilitation Science	3
RSD6112 Advanced Rehabilitation Science	3
RSD7930 Research Pro-seminar in Rehabilitation Science	2
RSD7300 Rehabilitation Ethics	3
RSD7910 Mentored Research Apprenticeship 1 and 2	1-2
RSD 6921 Colloquium in Rehabilitation Sciences 1 and 2	1-2

Statistics/Research Methods Core

15 hours

PHC 6051 Biostatistics II	3
PHC 7936 Seminar in Health Care Outcomes Measurements	3

Students choose from the following for the remaining 9 hours:

HSC 6054 Design & Analysis of Experiments for Health Researchers	3
GMS 6102 Experimental Design & Analysis	3
PHC 6020 Design and Conduct of Clinical Trials	3
PHC 6060 Biostatistical Case Studies and Consulting	3
PHC 7709 Case Studies in Quantitative Analysis of Public Health Data	3
GMS 6840 Cultural and Diversity Issues in Clinical Research	2
GMS 6843 Scientific Communication	2
PHC 7054 Advanced Biostatistical Methods	3
PHC 7053 Generalized Linear Models	3
PSY 6217 Research Methods and Measurement	3
SYA 6437 SPSS and Social Research	3
PHT 6609 Critical Assessment of the Literature & Evidence-based Practice	3

Concentrations

15 hours

Students select from the following Concentrations:

Veteran's Health/Reintegration (VHR)

Students in consultation with their committee will select courses for the Concentration.

Potential courses:

RSD	7933	Special Topics in Veteran's Health/Reintegration	3
SOW	6126	Theoretical Perspectives on Physical Dysfunction	2
PET	6388	Physical Activity Health and Disease	3
PHT	7540	Principles in Patient/Client Management Seminar	3
GMS	6771	Aging and Neuroscience	3
MHS	6210	Wraparound Interventions and the System of Care	3
MHS	6311	Online Services in Counseling and Helping Professions	3
PHC	6501	Homelessness: Implications for Behavioral Healthcare	3
PHT	8702	Advanced Prosthetics and Orthotics	3

Chronic Disease (CHD)

Students in consultation with their committee will select courses for the Concentration.

Potential courses:

RSD	7931	Special Topics in Chronic Disease	3
GEY	7602	PhD Seminar in Health and Aging	3
GEY	7604	Biomedical Aging	3
GEY	7610	Psychological Issues in Aging: Interdisciplinary Perspective	3
GEY	7622	PhD Seminar in Policy and the Elderly	3
GEY	7623	Social and Health Issues in Aging	3
GEY	7649	Population Aging	3
GMS	6334	Pathobiology of Human Cancer	3
SOW	6126	Theoretical Perspectives on Physical Dysfunction	3
PHC	6410	Social and Behavioral Sciences Applied to Health	3
PHC	6522	Nutrition in Health and Disease	3
PHC	6931	Advanced Seminar in Social and Behavioral Sciences Applied to Health	3
PET	6388	Physical Activity Health and Disease	3
GMS	6500C	Core Physiology	4-6
PET	6369	Cardiorespiratory Aspects of Exercise Physiology	3
PHT	7540	Principles in Patient/Client Management Seminar	3
PHC	6418	Public Health and Aging	3
RCS	5035	Rehabilitation Counseling: Concept and Applications	3
RCS	5080	Medical Aspects of Disability	3

Neuromusculoskeletal Disability (NMD)

Students in consultation with their committee will select courses for the Concentration.

Potential Courses:

RSD	7932	Special Topics in Neuromusculoskeletal Disability	3
GMS	6440	Basic Medical Physiology	3
GMS	6431	Cell Physiology	4
GMS	6770	A Metabolic Approach to Pain Management	3
HSC	6556	Pathobiology of Human Disease I	3
HSC	6557	Pathobiology of Human Disease II	3
PET	6388	Physical Activity Health and Disease	3
PET	6084	Body Composition: Assessment and Management	3
PET	6098	Topics in Strength and Conditioning	3
PET	6339	Neuromuscular Aspects of Exercise Physiology	3
PET	6351	Occupational Medicine for Health Professionals	3
PHT	7450	Principles in Patient/Client Management Seminar	3
PHT	7264	Neuromuscular Clinical Problem Solving	3
PHT	7777	Musculoskeletal Clinical Problem Solving	3
PHT	8724	Anatomical Basis of Physical Therapy and Rehabilitation	3

Electives

3-12 hours

Electives may be selected in consultation with student’s committee.

Potential Courses:

GMS 6020	Neuroscience	5-6
GMS 6541	Pharmacology for Health Professionals	4
GMS 6706	Basic Medical Neuroscience	3
GMS 6843	Scientific Communication	2
GMS 6875	Ethical and Regulatory Aspects of Clinical Research	3
GMS 6890	Medicine and the Arts	3
GMS 6891	Medicine and the Movies	3
GMS 6840	Cultural and Diversity Issues in Clinical Research	2
PHT 7151	Health Promotions and Wellness	3
RSD 7900	Directed Readings in Rehabilitation Sciences	3
RSD 6941	Teaching Practicum in Rehabilitation Sciences	3

Doctoral Qualifying Exam

As soon as the substantial majority of the course work is completed, the student must pass a written qualifying examination covering the subject matter in the major and related fields. This examination may be supplemented by an oral examination.

Dissertation

12 hours

RSD 7980 Dissertation

12

Other Information:

		Year 1		Year 2		Year 3		Year 4***	
		Course	Cr.	Course	Cr.	Course	Cr.	Course	Cr.
Semester	Fall	Intro to Rehabilitation Sciences	3	Research Proseminar in Rehabilitation Sciences	2	Dissertation	3	Dissertation Elective(s)	---
		Colloquium 1	1	Mentored Research	1				
		Concentration	3	Apprenticeship	3				
		Statistics/Research	3	Statistics/Research	3				
		Methodology		Methodology					
				Concentration	3				
	Spring	Advanced Rehabilitation Sciences	3	Mentored Research	1	Dissertation	6	Dissertation	---
		Colloquium 2	1	Apprenticeship	3				
		Concentration	3	Concentration	3				
		Statistics/Research	3	Statistics/Research	3				
		Methodology		Methodology					
				Elective(s)*	3				
	Summer	Rehabilitation Ethics	3	Elective(s)	6	Dissertation	3	Dissertation	---
		Concentration	3	Comprehensive Examination					
		Statistics/Research	3	**Accepted to Candidacy					
		Methodology							
			29		25		12		

* A wide range of electives within the Rehabilitation Sciences major and from other departments on the USF and USF Health campuses are available to students. Student may select electives that complement their course work and provide knowledge and skills that they will find useful upon graduation.

** Once accepted into candidacy, a student may begin work on their dissertation.

***While some students may complete the PhD requirements in three years, others may require more time to complete all requirements. Fourth year credit hours and courses would be directed toward fulfilling requirement.

COURSES

<http://ugs.usf.edu/course-inventory>