

Ph.D. in Medical Sciences



Handbook 2017-2018

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Introduction

Welcome to the graduate program of the University of South Florida's Morsani College of Medicine.

The Ph.D. Program in Integrated Biomedical Sciences (PPIBS) offers students an outstanding educational and training environment that facilitates their development as independent academics, scientists and biomedical researchers. PPIBS provides students with a diverse array of academic courses, research opportunities and exposes students to a talented faculty with a broad array of research interests. Participating faculty are primarily drawn from basic science and clinical departments in the Morsani College of Medicine. Affiliated institutions include the Byrd Alzheimer's Institute, the James A. Haley V.A. hospital, the USF Center for Biological Defense, and the Moffitt Cancer Center.

Faculty expertise and laboratory facilities are available in all of the main subject areas in the biomedical sciences including anatomy, biochemistry, cancer biology, cell biology, immunology, infectious diseases, molecular biology, neuroscience, pharmacology, and physiology. The Morsani College of Medicine offers over 150 graduate courses that provide exceptional learning opportunities.

The strength of our program resides in the combined expertise of its diverse faculty and their commitment to academic excellence and student development. In addition, the ability of students to select from a variety of interdisciplinary curricula allows students to develop individual expertise targeted towards their future professional careers.

This handbook is intended as a quick policy guide for navigating the Ph.D. program. The information and procedures described in the handbook are subject to change and may vary according to the specific program requirements for each of the various concentrations. We recommend that you use this handbook as an initial reference tool and basis for further inquiry with your advisors or program coordinators. In addition to the items described here, PPIBS follows the guidelines outlined by the USF Office of Graduate Studies. The current USF Graduate Catalog may be found at <http://www.grad.usf.edu/catalog.php>. It is your responsibility as a graduate student to maintain your progress in accordance with program policies and to meet relevant deadlines. All questions regarding college graduate policies should be directed to the individual graduate concentration coordinators, to the Associate Dean and/or Administrative Director of Ph.D. and Postdoctoral Programs, or to the Office of Graduate and Postdoctoral Affairs.

Disclaimer: Remember that all information contained in this handbook is provided as a guideline and may not reflect current University or Department policy.

Office of Graduate Affairs

The role of the Office of Graduate and Postdoctoral Affairs is to provide administrative leadership, support, and coordinate the missions and goals of the various graduate programs. The office features a student-focused approach with a dedicated staff that is committed to both student advancement and success. Services range from developing and hosting the annual “new student” orientation, assisting with course registrations, helping students with poster printing, and the planning and execution of the final dissertation defenses.

The Office of Graduate & Postdoctoral Affairs is located in Suite MDC 1054 on the ground level of the research building within the Health Sciences complex on the westernmost edge of the main University of South Florida campus in Tampa. Ph.D. and Postdoctoral Programs is housed in MDL 1046 next to the Shimberg HSC Library and across from Group Learning Rooms 1-3-5 (MDL 1037).

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Summary of Degree Requirements

All students are required to successfully complete the following courses:

GMS 6001 Foundation in Biomedical Sciences	6 hrs
GMS 7930 Laboratory Techniques	1 hr
GMS 6091 Responsible Conduct in Research	1 hr
GMS 6094 Experimental Design & Analysis	3 hrs
GMS 6002 Success Skills in the Biomedical Sciences	1 hr
BCH 6935 Grant Writing & Scientific Communication	2 hrs

Students are also required to complete at least one semester of Laboratory Rotations in Biomedical Sciences, GMS 6942 (1-3 credit hours).

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. There are 6 concentrations requiring specific courses. The student will work with his/her advisory and dissertation committees to choose appropriate courses from the course list for their chosen concentration.

Minimum GPA and grade requirements

Students must maintain a minimum GPA of 3.0. Those falling below 3.0 will be placed on academic probation, and will have two semesters in which to meet the minimum GPA requirements. If the student does not have at least a 3.0 GPA after these two semesters, the student will be dismissed from the program.

Students must earn at least a “B” in all required courses (core and concentration-specific). If the student earns a grade less than a “B” in a required course, then the student will have the opportunity to take the course a second time. However, the student’s stipend and tuition waiver may be suspended. If the student earns less than a “B” in the same required course for the second time, the student will be dismissed from the program. This “second chance” rule does not supersede the requirement to maintain a minimum overall 3.0 GPA throughout the Ph.D. program.

Bioscience Seminar

All students entering the program after spring 2017 are required to take the Bioscience seminar course, GMS 7939.005, in the fall and spring semester each year. Each student is required to submit an abstract of one seminar of his/her choice in each semester. The abstract will be graded by the Bioscience seminar organizing committee.

Formal Research Seminars

Starting in their second year, each student shall present one full-length formal research seminar per year as part of a MCoM student research seminar course offered within the student’s chosen concentration.

Journal Clubs

Students are encouraged to participate in one journal club per fall and spring semester.

Directed and Dissertation Research

Students will register for laboratory research throughout their tenure in the graduate program. Prior to completing the Comprehensive Qualifying Examination, the student will register for GMS 7910, Directed Research. Following successful completion of the Comprehensive Qualifying Examination, the student will register for GMS 7980, Dissertation Research. A minimum of 24 credit hours Dissertation Research is required.

Program Summary

Collaboration among laboratory scientists of all disciplines is encouraged. The programs of study allow students to tailor their programs to individual needs and interests. Thanks to faculty research awards, students have the opportunity to participate in cutting-edge research projects. Medical Sciences Ph.D. graduates progress to become deeply involved in research sponsored by academic, industrial and government institutions. Candidates for the Ph.D. in Medical Sciences enter into an integrated program enabling them to major in one of the following concentrations:

- Allergy, Immunology, and Infectious Diseases
- Cardiovascular Biology
- Molecular Medicine
- Molecular Pharmacology & Physiology
- Neuroscience
- Pathology & Cell Biology

Students are free to study under the mentorship of USF COM credentialed graduate faculty conducting research in the following institutions:

- University of South Florida's College of Medicine
- H. Lee Moffitt Cancer Center
- James Haley Veteran's Hospital
- Tampa General Hospital

Total Program Credits (minimum)

90

Forms required throughout the Ph.D. program can be found at the following website:

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

In addition, PPIBS follows the guidelines outlined by the USF Graduate School. The current USF Graduate Catalog can be found at <http://www.grad.usf.edu/catalog.asp>.

The First Year of Study

Within the first year of study, a student selects a major professor, a formal dissertation committee is assembled and the student is appointed in the appropriate basic science department. The student, in collaboration with the major professor, also selects one of the concentrations. The dissertation committee assists the student in planning their research, choosing the appropriate concentration and

curriculum, evaluates the student's progress, supervises the comprehensive qualifying examinations, and conducts the final dissertation defense.

The Second Year of Study

By the end of the second year, a student has usually completed sufficient course work and has met the other research requirements to take the Comprehensive Qualifying Examination. Successful completion of this examination leads to formal candidacy for Ph.D. admission.

Doctoral Student Supervisory Committee Composition

The Doctoral Student Supervisory Committee will be formed within six months of the assignment of a major professor, and no later than four terms (including summer) after entering the program. If a student enters the Ph.D. program following completion of the M.S. in Medical Sciences (from USF MCoM), then the Doctoral Dissertation Committee must be formed by the end of the first semester in the Ph.D. program. The committee will consist of a minimum of three credentialed Morsani College of Medicine graduate faculty members in addition to the major and co-major professors, who are experts in fields relevant to student's research area. At least two members shall hold primary appointments in the student's home department, and will be appointed by the department Chair. At least one committee member shall hold a primary appointment in another department. As per University guidelines, the Doctoral Committee is officially designated by the College of Medicine's Associate Dean for Ph.D. and Postdoctoral Programs. The Graduate Student Advisory Committee Appointment Form may be found at <http://health.usf.edu/medicine/graduatestudies/forms>.

Comprehensive qualifying examination (CQE) procedure

Students who have not yet completed the mandatory course work, or who are on academic probation, may not take the CQE. The student's doctoral student supervisory committee must be approved by the Associate Dean for Ph.D. and Postdoctoral Programs prior to the start of the CQE process. When all prerequisites are met, the student may begin the CQE process.

The following is the formal and mandatory Comprehensive Qualifying Examination procedure. The examination serves as the formal process for Admission to Ph.D. Candidacy. The student is solely responsible for all aspects of the exam. Students typically complete the CQE process in Year 3, fall semester. The CQE checklist can be found at <http://health.usf.edu/medicine/graduatestudies/forms>.

The student will inform the graduate program coordinator for their concentration that they plan to proceed with the CQE. At that time, the graduate program coordinator will arrange for a CQE Committee Chair to be named. The CQE Committee Chair will be an experienced graduate faculty member expert in the student's concentration, but not a member of the student's supervisory committee. The role of the CQE Chair is outlined in the CQE checklist that may be found at <http://health.usf.edu/medicine/graduatestudies/forms>. The student will prepare a Specific Aims page describing a possible dissertation research proposal. Following approval to proceed by the student's CQE committee, the student will prepare a dissertation research proposal.

The topic of the proposal shall be related to the student's area of research. The text of the proposal must be distinct from the major professor's funded grant proposals. The proposal is limited to a total of 13 single-spaced pages, including the Specific Aims page. The document should be written in the style of a typical research grant proposal that contains the following sections immediately following the Specific Aims page: 1) Background & Significance, 2) Preliminary Data, and 3) Research Design & Methods. All relevant literature should be cited in a separate section (and will not be considered part of the 13 page limit).

Students will prepare and present a formal public seminar of their dissertation research proposal. This seminar can be coordinated (and take the place of) one of the annual formal research seminars. Immediately following the seminar, the student will be examined by the CQE examining committee which is comprised of the student's dissertation committee (except the major professor) and one additional graduate faculty member, serving as CQE Committee Chair named by the concentration Director. This oral examination is designed to determine whether the student is proficient in their chosen concentration. Also, the student should be prepared to defend the proposed research plan. The written proposal, oral examination and defense will serve as the student's Ph.D. qualifying examination.

The student will have a total of six weeks to complete the CQE process from the date on which the student's CQE committee approves the Specific Aims. The written proposal shall be distributed to the student's CQE committee at least two weeks prior to the oral examination and defense, giving the student four weeks to write the proposal. Students will be admitted to Ph.D. candidacy only following successful completion of both portions of the examination. Each member of the CQE committee will evaluate the student performance, in writing, based on five areas: 1) general knowledge within the student's chosen concentration, 2) quality of the proposed research/problem solving ability, 3) understanding of the proposed methodology, 4) organization/written and oral communication, and 5) knowledge of the literature. The CQE evaluation forms may be found at: <http://health.usf.edu/medicine/graduatestudies/forms>. The minimal passing score in each category must average 3 or higher (5 is maximum), and the average total score (the sum of scores from each of the five categories) must be 18 or higher (25 maximum). With the successful completion of the CQE, the student may receive an M.S. in Medical Sciences, and be admitted to Ph.D. candidacy after completing the "Master's Degree Certification" and the "Admission to Doctoral Candidacy" forms, respectively. The forms may be found at <http://health.usf.edu/medicine/graduatestudies/forms>. Students must register for a minimum of 2 credit hours during the semester in which the CQE was completed successfully. Early in the semester in which the M.S. degree is to be conferred, students must complete the "Graduate Degree Graduation Application." Students will apply online under their OASIS account, student tab.

If a student fails on the first attempt, they will have a second opportunity to pass the CQE within one month of the first examination unless extenuating circumstances warrant an extension

Additional CQE procedures may be found at: <http://health.usf.edu/medicine/graduatestudies/forms>, and the complete CQE procedure checklist with description of CQE Chair role is listed below:

CQE Procedures

Before CQE

- Graduate Student Supervisory Committee Appointment
 - ☐ Graduate Student Supervisory Committee Appointment Form:
 - <http://health.usf.edu/medicine/graduatestudies/forms> **This form should be completed the term prior to taking the CQE**
 - The Graduate Student Supervisory Committee will monitor the student's progress and serve as members of the student's CQE committee and the student's dissertation committee.
 - ☐ Composition of the Graduate Student Supervisory Committee
 - The committee will consist of a minimum of **three** credentialed Morsani College of Medicine graduate faculty members **in addition to the major and co-major professors**, who are experts in fields relevant to student's research area
 - If committee member is not employed by USF - must have CV
 - **At least, two** members of the committee must have a faculty (core/full/current) appointment in the student's home department.
 - **One** member of the committee needs to have a faculty appointment outside the student's home department.
- Student CQE Committee
 - The CQE Committee consists of the members of the Graduate Student Supervisory Committee (**excluding** the Major and co-Major Professors), and an additional faculty member who is not on the student's supervisory committee to serve as Chair of the CQE Committee.
 - The CQE Committee Chair will be appointed by the concentration coordinator and is an experienced graduate faculty member expert in the student's concentration, but not a member of the student's dissertation committee
 - **Role of the CQE Chair:**
 1. The CQE Committee Chair will be charged with facilitating the CQE. S/he will ensure that all of the CQE procedures are followed as described in the student handbook that can be found at:
<http://health.usf.edu/medicine/graduatestudies/>.
 2. The CQE Chair will also ensure that the CQE assessment rubrics are completed individually by all CQE Committee members ***including that of the CQE chair***, and will inform the student of their relative performance in each assessment area and whether or not they passed the CQE.
 3. If the student does not pass, the CQE Chair will also inform the student, in writing, the specific set of conditions that the student should follow in order to have a greater chance of success when the CQE is taken again (i.e., what portions of the exam were assessed as inadequate, and how might the student work to improve in those areas before the next exam).

CQE

- Preparation for Written and Oral CQE
 - ☐ Apply for MS degree online at the start of the semester of the CQE. Application is done through your student OASIS account (last link underneath *STUDENT- APPLY TO GRADUATE-* Must inform [Ms. Chassity White](#) in OGPA when you plan to do this).
 - ☐ **Seven weeks** before the Oral CQE – The Specific Aims page must be submitted to the CQE Committee. The CQE committee should decide whether to approve to proceed with the CQE within one week of submission.
 - ☐ **Six weeks** before the Oral CQE – If approved to proceed, then the Student may proceed with the Written CQE and making arrangements for the Oral CQE (*e.g.*, date and room reservation).
- Oral CQE date and Room Reservation
 - ☐ Graduate Student must set CQE date after consulting with CQE Committee.
 - ☐ Graduate Student must inform the [Ph.D. Program Associate Dean \(Dr. Teng\)](#), the [Administrative Director \(Dr. Combie\)](#), [Ph.D. Concentration Coordinator](#), [Dept. Chair](#), [Dept. academic services administrator](#) (if applicable) of the Oral CQE date.
 - ☐ Dr. Combie and the department will create and disseminate your CQE announcement
 - ☐ **Two weeks** before the Oral CQE – Research Proposal (*i.e.*, the written portion of the CQE) must be submitted to the CQE Committee.
 - ☐ **One week** before the Oral CQE - Graduate Student must submit a copy of his/her transcript to the External Chair of the CQE Committee (***Ask Ms. Shonique Edwards for assistance***).
 - ☐ **On the day of the CQE**, take a copy of your unofficial transcript to the oral CQE
 - **Oral CQE** – consists of presentation/seminar followed by defense of proposal and general examination.

After Successful CQE

- Applications and Certifications
 - ☐ Student must apply for Admission to Doctoral Candidacy (ADC):
<http://health.usf.edu/medicine/graduatestudies/forms>
 - Student's current transcript needs to be attached to ADC showing at least 3.0 GPA (*student may access it through OASIS or request that Dr. Combie print it through Banner*).
 - ☐ Student must apply for Master's Degree Certification (College of Medicine):
<http://health.usf.edu/medicine/graduatestudies/forms>

- ☐ Once the above documents are approved and signed, the student should submit them to [Ms. Edwards](#) for signature by the Associate Dean ([Dr. Teng](#)) and for inclusion in the student's files in OGPA, and provide a copy to the student's home department.
- ☐ Student will receive an e-mail from OGPA when the documents have been approved and/or if any additional paperwork is needed.

Doctoral Degree Completion

The final phase of the program emphasizes research and independent study, which leads to a written dissertation. The Ph.D. degree is awarded upon successful completion and oral defense of the dissertation. Similar to the CQE, each member of the dissertation committee will evaluate the student performance, in writing, based on five areas: 1) knowledge/understanding of the literature, 2) quality of the research, 3) understanding of the methodology used, 4) problem solving, and 5) organization/communication. The minimal passing score in each category must average 3 or higher (5 is maximum), and the average total score (the sum of scores from each of the five categories) must be 18 or higher (25 maximum). The dissertation and oral defense evaluation forms may be found at: <http://health.usf.edu/medicine/graduatestudies/forms>. The additional dissertation defense procedures may be found at: <http://health.usf.edu/medicine/graduatestudies/forms>, and are on the subsequent page.

Time Limitations

Doctoral degrees must be completed within seven (7) years from the student's original date of admission for doctoral study. All courses applied to the doctoral degree must be completed within seven (7) years, including courses taken

1. prior to admission to the USF doctoral program,
2. taken as non-degree seeking, or
3. transferred in from other institutions

There is no time limitation for courses from a completed master's degree used toward a doctoral degree. For students who are readmitted, see Readmission Policy. Typically a student will reach candidacy within four years, but this may vary per discipline.

Directed Research

Directed Research hours taken with the concentration coordinator prior to approval to doctoral candidacy by the Office of Graduate Studies may satisfy up to 50% of the dissertation hour requirement, with program approval.

PROCEDURES FOR Ph.D. DISSERTATION DEFENSES

USF MORSANI COLLEGE OF MEDICINE

The Graduate School provides deadline dates each semester found at: www.grad.usf.edu. We used these deadlines to outline a user-friendly, checklist for you to follow below.

1. **During the term PRIOR to the term during which you plan to graduate:** you must register for and take the ETD course delivered by the Office of Graduate Studies on formatting and electronic submission procedures for the dissertation. Details may be found at <http://www.grad.usf.edu/ETD-res-main.php>.
2. **During the term PRIOR to the term during which you plan to graduate:** please notify Dr. Combie in the USF MCOM Office of Graduate & Postdoctoral Affairs (OGPA), your department academic services administrator and concentration Ph.D. coordinator that you plan to defend during the upcoming term.
3. **Early in the semester that you plan to graduate:** you must submit a *Graduate Degree Graduation Application*. You Apply ONLINE through your OASIS student account.
4. **As soon as you have established a defense date:** notify Dr. Combie in OGPA and your department room scheduler (likely the Academic Services Administrator) so a room can be reserved for your defense. In some departments, it is the student's responsibility to reserve the room. *Reserve the room for at least a four-hour block.*
5. **Before nominating an external chair,** you will need to provide an update on your publications to the Associate Dean and Administrative Director.
6. **At least five weeks before your defense, an External Chair of your Dissertation Defense Committee must be nominated:** The external chair is nominated by your Major Professor (and you), but must be approved by your Major Professor, your Department Chair and the Associate Dean for Ph.D. and Postdoctoral Programs (Dr. Teng) **PRIOR** to the person being formally invited. The external chair cannot be a formal collaborator with your lab on any project related to your dissertation, and should be an academic with experience in training Ph.D. students who is expert in the discipline of your dissertation. The nominee's CV must be sent to the Chair of your department, who, upon approval, will nominate the individual by forwarding a copy of his/her CV to the Associate Dean for Ph.D. & Postdoctoral Programs and copying Dr. Combie **at least five weeks prior to your defense date.** Upon approval by the Associate Dean, an official invitation letter from OGPA will be sent to the external chair approximately four weeks before the defense date. Your major professor is responsible for organizing the complete agenda for the external chair's visit, including planning and advertising his/her seminar. Dr. Combie will assist in disseminating the flyers electronically in the college and across campus.
7. **At least three weeks or more before your defense:** An electronic copy of your dissertation must be sent to Dr. Teng, Dr. Combie, and every member of your dissertation committee and to the outside chair.
8. **At least two weeks before the defense:** The signed *Request for the Dissertation Defense Form* <http://gradaffairs.health.usf.edu/forms.html> must be sent to Dr. Combie in OGPA. **Note:** This form must be signed by all USF dissertation committee members and the department chair. The committee member is supposed to read through the dissertation PRIOR to signing the form. Please plan ahead because committee members can be difficult to track down for signatures. After securing the signature of the department chair, submit form to Dr. Combie for Dr. Bennett's signature as "College Dean".
9. **At least two weeks before you defend:** The student is responsible for completing the defense announcement form, found on: <http://gradaffairs.health.usf.edu/forms.html> and should provide

electronic copies to Dr. Combie in OGPA as well as the Academic Services Administrator for their respective department.

- 10. Dr. Combie in OGPA will distribute the announcement (and copy Graduate Studies, Basic Science Depts., and the MCoM community).
- 11. **The day of your defense:** Prepare one copy of the following: *Electronic Thesis & Dissertation (ETD) Certificate of Approval* located at http://gradaffairs.health.usf.edu/student_resources.html and *Successful Defense Form* and **take them to your defense**. Following a successful defense, committee members will sign the forms in black ink; please return signed forms to Dr. Combie (OGPA). The ETD form will then be signed by Dr. Teng; once done, submit the original to the USF Office of Graduate Studies (Mr. Matthew Cordner) with the NORC survey (<https://sed.norc.org/showRegister.do>), and the plagiarism check <http://www.grad.usf.edu/ETD-plagiarism.php>. Current ETD deadlines are available here http://www.grad.usf.edu/ETD_Deadlines.php
- 12. **Within 30 day after your defense and after you have made any corrections to your dissertation:** Upon ETD approval (an email from Graduate Studies), email the ETD approved PDF to biomedPhD@health.usf.edu, specifying the binding color (15 options). You will receive a copy, your major professor(s) will receive a copy(ies), your department will receive a copy, and OGPA will receive one. The Ph.D. and Postdoctoral Programs office can advise you if you would like to purchase additional copies.

NOTE: If an ETD-approved copy of your dissertation is not submitted to the Office of Graduate & Postdoctoral Affairs for binding, you will not be certified to graduate.

Common graduation requirements

Prior to the successful completion of all requirements for the Ph.D., students will be expected to publish a minimum of two peer-reviewed original research articles, at least one of which must be a first author publication related to their dissertation research. Very rare exceptions to this rule may be made with the consent of the student's Doctoral Dissertation Committee and Program Director. Petitions for such exceptions must be made by the student's major professor and approved by both the committee and the program director prior to scheduling the defense of the dissertation.

Stipends / Tuition/ Insurance - Financial Assistance for Ph.D. Students

Graduate research assistantships, supported primarily from research grants held by individual faculty members, are available through individual College of Medicine departments.

Benefits for students who are admitted into the Ph.D. program include:

\$26,000 annual stipend - All students receiving a Graduate Assistantship or Graduate Research Assistantship, and working full-time (at least 40 hours/week), will receive a \$26,000 stipend.

Tuition waivers (excludes student fees)

All students appointed as a GA or GRA within the MCOM, are eligible for a tuition waiver. Forms found at: <http://health.usf.edu/medicine/graduatestudies/forms> and must be submitted every term. Students are to register for 12 credit hours in the fall and spring semesters and 8 credit hours in the summer term. Exceptions to this include the term in which the student completes the dissertation

defense. The USF MCOM Office of Graduate & Postdoctoral Affairs has no role in determining or administering the fees for which students are responsible, which can be found at:

http://www.usf.edu/business-finance/controller/student-services/graduate_tuition_rates_2016-2017.pdf

Medical insurance contribution - All students appointed through the MCOM as a GA or GRA (0.5 FTE) will receive 100% contribution toward student health insurance. Information and a link to sign-up online can be found at: <http://usfweb2.usf.edu/human-resources/benefits/graduate-assistant-insurance.asp>

Student travel awards - Each semester, the MCOM graduate student organization awards small travel awards (\$500) to students presenting their research at national/international meetings. Please contact the president of AMSGS for details.

Federal Financial Aid

There are new regulations regarding Federal Financial Aid (FFA) eligibility that you should consider if you plan to apply for FFA while a Ph.D. student. Details may be found at: <http://www.usf.edu/financial-aid/sap/index.aspx>

Briefly, students are no longer eligible for FFA once they exceed 50% above the minimum credit hours required for the Ph.D. For our program, 90 credit hours are required, and therefore, once a student exceeds 135 hours, s/he will no longer be eligible for FFA. Given that PPIBS students take 32 hours/year, students become ineligible for FFA after the fall semester of his/her 5th year in the program. In addition, if a student has taken ANY graduate level courses (*at USF or any other institution*) prior to enrollment in the Ph.D. Program, these credit hours are included in the total with respect to FFA eligibility. Should one need to request an exemption in order to receive FFA, contact University Scholarships and Financial Aid Services at <http://www.usf.edu/financial-aid/questions/>.

Incentive Program

Students who apply for and receive external (of the MCOM/USF) student fellowships will be rewarded for their accomplishment by receiving an additional 15% of the fellowship value added to their \$26,000 stipend, pending approval and financial ability of the major professor. That is, the total compensation received by the student would be \$26,000 + 15% of the fellowship value. If a single fellowship pays between \$26,000 and \$29,600, total compensation will be capped at \$29,600. No bonus will be paid for fellowships paying more than \$29,600 annually.

Outside Employment

The rigorous courses and requisite research efforts of the Ph.D. Program do not allow time for additional employment. Thus, the Program does not permit students with a Graduate Assistantship or Graduate Research Assistantship to have outside employment, and the students are expected to work full-time. Students who seek outside employment will lose their stipend support and subsequently their tuition waiver.

Progress reports

At the end of each academic year (the summer term), the students and their committee members will complete a progress report that highlights the student's accomplishments of the past year and the goals and objective of the coming academic year. This form and other Graduate forms may be found at the following URL: <http://health.usf.edu/medicine/graduatestudies/forms>

Verification of Degree

Students needing verification that they have met all requirements to receive the Ph.D. prior to the conferment of the degree should contact Dr. Combie in the Office of Graduate and Postdoctoral Affairs.

Concentration Curricula

The following is a list of specific courses required for each of the six concentrations for the Ph.D. in Medical Sciences. Students will choose one of the following five concentrations in consultation with their major professor. The course and other curricular requirements specific to each concentration are in addition to the common curriculum, Comprehensive Qualifying Examination procedure, and graduation requirements described above.

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Welcome to the College of Medicine's graduate community.

Our website is designed to provide accurate and accessible information regarding graduate education in the College's School of Biomedical Sciences. The School comprises a group of talented and energetic faculty and staff who are fully committed to our student's success in both education and research.

Prospective students will find information concerning our available graduate programs, including the broad range of featured subject concentrations and the various admissions requirements. The School's education "continuum" includes a diverse array of Certificate, Master's and Doctoral programs that span the alphabet from "A" for anatomy to "W" for our developing women's health initiative. The Integrated Biomedical Sciences Ph.D. program offers students an excellent training environment where they can develop their full potential and focus on solutions to some of today's major biomedical issues. In addition, current students will also find valuable information that they need concerning course availability, registration and graduation requirements.

The Faculty in the School of Biomedical Sciences contribute a variety of core courses in the major biomedical subject areas together with advanced courses that include such emerging topics as bioinformatics, biotechnology, genomics, neuroscience and proteomics.

As you explore this site, you will see that we are proud of our commitment to provide an outstanding graduate experience for all our students. We invite you to examine all that the College has to offer as a campus leader in graduate education and welcome you to our community of scholars.

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Medical Sciences Ph.D. Program Handbook 2017-18 (Revised 10/17/17)

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I. Allergy, Immunology and Infectious Disease

Research and education in the Ph.D. in Medical Sciences Program, concentration in Allergy, Immunology and Infectious Diseases, is focused on interdisciplinary approaches to the study of how microbes interact with the host to cause disease and how the immune system responds to allergens, infection and neoplasms. Students who elected the SIPAID (Signature Interdisciplinary Program in Allergy, Immunology, and Infectious Disease) curriculum currently are pursuing research projects in areas including emerging infectious diseases, bacterial pathogenesis, cancer immunotherapy, microbial drug resistance, malaria, regulation of immunity and inflammation, oncogenic viruses and respiratory viruses in acute and chronic diseases.

Training will include an interdisciplinary blend of coursework, journal clubs, seminar series, as well as significant research experience.

Required Courses:

GMS 6103	Foundations in Medical Microbiology and Immunology (Spring)	4 hrs
GMS 6101	Molecular and Cellular Immunology (Fall)	3 hrs

GMS7939	Graduate Seminar	1 hr
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Electives – Students must complete at least four credit hours from the following list:

BCH 6746	Structural Biology	3 hrs
BCH 6135C	Methods in Molecular Medicine	4 hrs
GMS 6107	Advances in Virology	2 hrs
GMS 6114	Vaccines and Applied Immunology	2 hrs
GMS 6110	Microbial Pathogenesis and Host-Parasite Interactions	2 hrs
GMS 6840	Supervised Teaching	1 hr
GMS 6115	Medical Parasitology and Mycology	3 hrs

Students in the program may register for alternative electives with approval from the SIPAID Graduate Coordinator.

Allergy, Immunology and Infectious Disease Graduate Coordinator: Dr. Burt Anderson,
banderso@health.usf.edu

II. Cardiovascular Biology

Under the broad heading of cardiovascular research, with an emphasis on vascular biology, a Concentration in Cardiovascular Biology provides training in such diverse fields as gene regulation and differentiation in smooth muscle, molecular biology of smooth and cardiac muscle, receptor function and signal transduction in smooth muscle and endothelial cells, matrix and adhesion molecules in endothelial cell function, cell-cell communication, vascular development and inflammation, angiogenesis, and remodeling. Training includes 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.

Required Courses:

GMS 6410 Cardiovascular Regulation	4 hrs
GMS 6440 Basic Medical Physiology	3 hrs
GMS 6505 Basic Medical Pharmacology	3 hrs
GMS 7939 Graduate Seminar	1 hr

Electives – Students must complete at least five credit hours from the following list:

BCH 6746 Structural Biology	3 hrs
BCH 6135 Methods in Molecular Medicine	4 hrs
GMS 6407 Smooth and Skeletal Muscle	4 hrs
GMS 6433 Membrane Physiology	4 hrs
GMS 6513 Principles of Pharmacology and Therapeutics	3 hrs
GMS 6840 Supervised Teaching	1 hr
GMS 7930 Selected Topics	1-3 hrs

Students in the program may register for alternative electives with approval from the Cardiovascular Biology Graduate Coordinator.

Cardiovascular Biology Graduate Coordinator: Dr. Jerome Breslin, jbreslin@health.usf.edu

III. Molecular Medicine

The Ph.D. Program concentration in Molecular Medicine is focused on interdisciplinary approaches to the study of the molecular basis of disease, providing graduate students with a fundamental understanding of biochemical and genetic principles basic to pathophysiological processes. In this program students will examine molecular mechanisms that underlie the cellular aberrations in clinical disorders; and incorporate fundamental principles learned in course work to medical research. Detailed information on specific research areas of the faculty is available at the Department of Molecular Medicine website under Faculty.

Areas of interest include:

- Alzheimer's disease
- Signal transduction/Cancer
- Heme biosynthesis
- Regulation of bacterial virulence
- Tumor virology
- Tumor biology & therapeutics
- Genomics, genetics, replication
- Cellular immunology
- Protein intrinsic disorder
- Structure based drug design
- Tumor Immunology and signal transduction

Required Courses:

BCH 6627 Molecular Basis of Disease	4 hrs
GMS 7939 Graduate Seminar	1 hr
GMS 6940 Supervised Teaching	2 semesters

Electives - Students must complete at least six credit hours from the following list. A minimum of 24 didactic credit hours are required for graduation.

BCH 6746 Structural Biology {recommended to be taken with Proteomics}	3 hrs
BSC 6932 Chemical Biology/Proteomics	3 hrs
GMS 6707 Basic Medical Neuroscience	3 hrs
GMS 6054 Cancer Biology I (PCB 6230)	
GMS 6055 Cancer Biology II (PCB 6231 Immunology)	
GMS 6103 Foundations in Microbiology & Immunology	4 hrs
GMS 6101 Cellular & Molecular Immunology	3 hrs
GMS 6110 Microbial Pathogenesis and Host-Parasite Interactions	2 hrs
GMS 6115 Medical Parasitology & Mycology	3 hrs
GMS 6334 Pathobiology of Human Cancer	
GMS 6610 Advanced Neuroanatomy	3 hrs
GMS 6735 Neuropharmacology	3 hrs

GMS 7930 Bioinformatics I & II
PCB 6939 Cancer Biology III (Cancer Genetics)

4 hrs

Students in the program may register for alternative electives with approval from the Molecular Medicine Graduate Program Coordinator. Students are also required to give a seminar one time per year and meet with their committee at least twice a year.

Supervised teaching (GMS 6940):

The Molecular Medicine Ph.D. program provides graduate students with supervised training in college and university teaching. After completion of the CQE, students are required to perform two semesters of supervised teaching – one semester of classroom teaching and one semester of online teaching. During their teaching activities the students will be directly supervised by experienced Molecular Medicine faculty members. Each student will be paired with a faculty member and will participate in the different aspects of college teaching, such as: topic selection, syllabus preparation, lecture planning, lecture delivery, exam creation and grading, and awarding of grades.

Molecular Medicine Graduate Coordinator: Dr. Gloria C. Ferreira, gferreir@health.usf.edu

IV. Molecular Pharmacology & Physiology

Research and education in the Ph.D. in Medical Sciences Program, concentration in Molecular Pharmacology and Physiology (MPY) 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.

Areas of interest include:

- Alzheimer's disease
- Brainstem central chemoreceptors
- Cell signaling networks and the regulation of heart rate
- Cellular and molecular mechanisms of CNS oxygen toxicity
- Computational neuroscience
- Extracellular matrix proteoglycans and their degrading proteinases
- Gene & stem cell therapies for heart disease and diabetes
- Hyperbaric neurophysiology
- Intestinal and renal regulation of whole body electrolyte homeostasis
- Lymphatic vascular biology
- Neural networks that control breathing and cardiovascular function
- Neural plasticity with neurodegenerative disease and after brain injury.
- Pathobiology of stroke
- Pathophysiology of sepsis
- Regulation and development of ion channels, synapses, and cell excitability
- Renal function and blood pressure regulation
- Stroke therapeutics

Required courses:

GMS 6440	Basic Medical Physiology	3 hrs
GMS 6505	Basic Medical Pharmacology	3 hrs
GMS 7930	Advanced Medical Pharmacology and Physiology	2 hrs
GMS 7939	Graduate Seminar	1 hr

Electives - Students must complete at least seven credit hours from the following list:

GMS 6707	Neuroscience	3 hrs
GMS 7930	Advanced Neuroscience	2 hrs
GMS 6401	Kidney, Fluids and Electrolytes	4 hrs
GMS 6404	Systems Neurophysiology	4 hrs
GMS 6410	Cardiovascular Regulation	4 hrs
GMS 6433	Membrane Physiology	4 hrs
GMS 6735	Neuropharmacology	3 hrs

Appropriate additional or alternative courses may be substituted for electives with consent of the MPY Graduate Coordinator.

Molecular Pharmacology and Physiology Graduate Coordinator: Dr. Daniel Yip, dyip@health.usf.edu

V. Neuroscience

Research and education in the Ph.D. in Medical Sciences Program, 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. 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.

Areas of interest include:

- Alzheimer's disease
- Parkinson's Disease
- Neurobiology of Aging
- Age and disease related changes in learning and memory
- Computational neuroscience
- Gene & stem cell therapies for neurodegenerative disease
- Hyperbaric neurophysiology
- Neural networks that control breathing and cardiovascular function
- Neural plasticity with neurodegenerative disease and after brain injury.
- Regulation and development of ion channels, synapses, and cell excitability
- Therapies for stroke and traumatic brain injury
- Brainstem central chemoreceptors
- Cellular and molecular mechanisms of CNS oxygen toxicity

Required:

GMS 6706 Basic Medical Neurosciences	3 hrs
GMS 7930 Advanced Neuroscience	2 hrs
GMS 7939 Graduate Seminar	1 hr

Strongly recommended:

GMS 6610 Advanced Neuroanatomy	3 hrs
GMS 6735 Neuropharmacology	3 hrs
GMS 6708 Neuroimmunology	3 hrs

Remaining course credits can be chosen from the following electives. A minimum of 24 didactic credit hours are required for graduation.

GMS 6440 Basic Medical Physiology	3 hrs
GMS 6505 Basic Medical Pharmacology	3 hrs

GMS 6404 Systems Neurophysiology	4 hrs
GMS 6433 Membrane Physiology	4 hrs
GMS 6771 Aging and Neuroscience	3 hrs
GMS 6772 Spinal Cord Development, Pathology and Therapy	3 hrs
GMS 6773 Stem Cells and Brain Repair	3 hrs
GMS 7930 Advanced Medical Physiology	2 hrs
GMS 7930 Advanced Medical Pharmacology	2 hrs
GMS 7930 Mechanisms of Memory	3 hrs

Students in the program may register for alternative electives, including special topics courses following approval by the Neuroscience Graduate Coordinator. Students are also required to give a seminar one time per year in Neuroscience Seminar and should take 3 journal club courses prior to graduation.

Neuroscience Graduate Coordinator: Dr. Paula Bickford, pbickfor@health.usf.edu

VI. Pathology & Cell Biology

The Ph.D. Program concentration in Pathology & Cell Biology (PCB) 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. Training will include a unique interdisciplinary blend of didactic coursework, journal clubs, seminar series, as well as significant research experience.

Areas of interest include:

- Angiogenesis
- Brain cancer
- Brain injury
- Cancer biomarkers
- Cancer pathobiology
- Cell biology
- Experimental cancer therapy
- Extracellular matrix and tumor invasion
- Gene and transcriptional regulation
- Genitourinary oncology
- Molecular and cellular oncology
- Myocardial injury
- Neurobiology
- New educational technologies
- Signal transduction and drug discovery
- Tumor immunology
- Women's cancers

Required courses:

GMS 6334	Pathobiology of Human Cancer	3 hrs
<u>or</u>		
GMS 6608	Advanced Microscopic Anatomy	4 hrs
GMS 7939	Graduate Seminar	1 hr

Electives - Students must complete their remaining credit hours from the following list:

GMS 6054	Cancer Biology	4 hrs
GMS 6111	Basic Medical Pathology	3 hrs
GMS 6112	Biochemical Pathology	3 hrs
GMS 6601	Methods of Electron Microscopy in Medical Research	3 hrs
GMS 6602	Neural Correlates of Behavior	3 hrs
GMS 6604	Human Embryology	3 hrs
GMS 6608	Advanced Microscopic Anatomy	4 hrs
GMS 6609	Advanced Gross Anatomy	6 hrs
GMS 6610	Advanced Neuroanatomy	3 hrs
GMS 7930	Bioinformatics	4 hrs
GMS 6671	A Brief History of Anatomy and Pathology	2 hrs

Students in the program may register for alternative electives with approval from the PCB graduate coordinator.

Pathology and Cell Biology Graduate Coordinator: Dr. Patricia Kruk, pkruk@health.usf.edu

Course descriptions (Listed by course number)

Required Core Courses

Semester(s) Offered:

GMS 6001 *Foundation in Biomedical Sciences*

Fall

A multidisciplinary course in the cellular, molecular, biochemical, and genetic basis of biomedical sciences, designed as a comprehensive first semester course for most incoming biomedical sciences graduate students.

GMS 6002 *Success Skills in the Biomedical Sciences*

Spring

This course will introduce the tasks and skills required of a successful biomedical graduate student and biomedical scientist.

GMS 6091 *Responsible Conduct in Research*

Fall

This course will introduce the tasks and skills required of a successful biomedical graduate student and their responsibilities and rights as a scientists. Issues of ethical and responsible conduct will be emphasized throughout.

GMS 6094 *Experimental Design and Analysis*

Fall

This course is designed to serve as an introduction to the experiments and analyses frequently encountered in the biomedical sciences. Students will be instructed on fundamental concepts of experimental design and data analysis, and will actively participate in the development of specific sample experiments complete with controls and limitations, and analyses of expected data.

GMS 6950 *Biomedical Sciences Communication & Instruction*

Summer

This course is designed for graduate students who want to pursue academic careers in universities and medical/allied health schools and are expected to teach, but are often not prepared. This course will train students to communicate their research and cutting-edge discoveries in biomedical science clearly and confidently for job interviews and at formal presentations at national/international conferences.

BCH 6935 *Grant Writing & Scientific Communication*

Spring

An introduction to principles of scientific writing of research articles and grants.

GMS 6942 *Laboratory Rotations in Biomed. Research*

All

Students will actively participate in experiments performed within several laboratories in the College of Medicine.

GMS 7910 *Directed Research (ends when Comprehensive Qualifying Examination is completed)*

GMS 7939 *Graduate Seminar*

Variable

This course is a seminar series in which each student will give one formal presentation of his/her research.

GMS 7980 Doctoral Dissertation Research (starts when Comprehensive Qualifying Examination is completed)

Concentration Specific Courses and Electives:

Semester(s) Offered:

BCH 6135C Methods in Molecular Biology

Summer

An introduction to modern molecular biological techniques and instrumentation.

BCH 6627 Molecular Basis of Disease

Fall

The overall objectives of *Molecular Basis of Disease* are to provide graduate students with a fundamental understanding of biological and genetic principles basic to pathophysiological processes; to explain the molecular mechanisms that underlie the cellular aberrations in clinical disorders; and to understand, synthesize, and incorporate the fundamental principles learned as they apply to medical research.

BCH 6746 Structural Biology

Spring

The theory and application of modern physical biochemical techniques.

GMS 6020 Neuroscience

Spring

An introduction into basic structure and function of the central nervous system. Emphasis is on an integrated approach that focuses on several levels of organization from molecular to cellular, from neural systems to behavior.

GMS 6054 Cancer Biology I; the Basics of Molecular Oncology

Fall

An introduction to the basics of molecular oncology. Topics will include cytoplasmic and nuclear oncogenes, cell cycle control, apoptosis, tumor suppressor genes and cancer drug discovery.

GMS 6055 Cancer Biology II; Immunology & Applied Molecular Oncology

Spring

A continuation of Cancer Biology I. Topics will include a comprehensive review of immunology as it relates to cancer and modern methods of cancer treatment.

GMS 6103 Foundations in Medical Microbiology and Immunology

Spring

An in depth survey of modern microbiology including bacterial agents, parasitic and fungal organisms and how they cause disease.

GMS 6107 Advances in Virology

The main objective of this 2 credit hour course is to provide students with basic concepts in Virology, and the fundamentals of medically important viruses. The second objective of this course is analysis of scientific articles published in Virology.

GMS 6110 *Microbial Pathogenesis and Host-Parasite Interactions*

The main objective of this 2 credit hour course is to provide students with an understanding of the basic concepts in microbial pathogenesis using select medically important microorganisms as examples.

GMS 6111 *Basic Medical Pathology*

Fall - online

This online lecture course focuses on disease processes and their causes.

GMS 6112 *Biochemical Pathology*

This course focuses on the cell-cell and cell-matrix interactions important for normal cell growth and differentiation and their dysregulation in pathological conditions such as tumor metastasis, cardiovascular disease and infection by pathogens.

GMS 6114 *Vaccines and Applied Immunology*

To encourage students to understand the principles of vaccination and how this information can be utilized to create more effective vaccines and immunotherapies against bioterrorist agents. The course will stress the applied aspects of vaccines.

GMS 6115 *Medical Parasitology and Mycology*

Alternate calendar

This course provides students with a detailed understanding of medical parasitology and mycology using select medically important parasites and disease causing fungi as examples to examine the multi-faceted adaptations of these eukaryotic microbial pathogens to survive in the human host and cope with the host's immune defense.

GMS 6334 *Pathobiology of Human Cancer*

Spring

Using tissue-related oncology topics that complement molecular biology & experimental therapeutics, this course will provide morphologic and biologic basis of human cancer.

GMS 6401 *Kidney, Fluids and Electrolytes*

TBD

The course involves discussions and advanced readings of current trends in renal physiology and fluid and electrolyte balance.

GMS 6404 *Systems Neurophysiology*

TBD

The course involves discussions/advanced readings of current trends in neural circuits.

GMS 6410 *Cardiovascular Regulation*

TBD

The course involves discussions/advanced readings of current trends in many aspects of the cardiovascular system including cardiac function, vascular biology, and signaling.

GMS 6433 *Membrane Physiology*

TBD

The course involves discussions and advanced readings of current trends in the molecular and cellular physiology and genetic diseases of ion channels and other membrane proteins. Topics

will include discussions of ion channel structure, gating, selectivity, modulation, clustering, and disease.

GMS 6440 Basic Medical Physiology

Spring

This course will serve as an introduction into human physiology, emphasizing systemic function.

GMS 6505 Basic Medical Pharmacology

Spring

This course will serve as an introduction into human pharmacology, emphasizing systemic function.

GMS 6513 Principles of Pharmacology and Therapeutics

Fall

This course is designed to familiarize students with basic principles of pharmacology and therapeutics. Students will be exposed to classical concepts of pharmacology such as drug-receptor interactions as well as modern techniques such as gene therapy.

GMS 6601 Methods of Electron Microscopy in Medical Research

This lecture and laboratory course deals with theoretical and technical issues regarding the use of the electron microscope in biomedical research.

GMS 6602 Neural Correlates of Behavior

This course focuses on the organization and function of nervous system structures that control and regulate various aspects of somatic and visceral motor behavior.

GMS 6604 Human Embryology

Spring

This course deals with the structural and functional development of the human from conception to birth.

GMS 6608 Advanced Microscopic Anatomy

Spring

This lecture/laboratory course examines the human organism at the microscopic level, focusing on cellular morphology and histological organization of tissues/organ systems.

GMS 6609 Advanced Gross Anatomy

Summer

This lecture and laboratory course focuses on the anatomical relationships between various structures that comprise the human body.

GMS 6610 Advanced Neuroanatomy

Fall

This lecture and laboratory course deals with the structure and function of the human nervous system. The course is organized using both regional and systemic approaches

GMS 6671 A Brief History of Anatomy and Pathology

Summer

The course provides students with a historical perspective of medical sciences including Anatomy, Pathology, Dentistry, Pharmacy, Medicine and Cell Biology from the early written records of scientific thought to the present.

GMS 6706 *Basic Medical Neurosciences*

This course will explore the nervous system and emphasize those aspects that have immediate relevance to clinical medicine.

GMS 6708 *Neuroimmunology*

Fall

The object of this course is to provide essential knowledge toward a better understanding of the interaction between the nervous system and immune system under physiologic and disease conditions. Molecular mechanisms of communication between immune and neuronal cells is a critical part of CNS function. It plays a role in pruning during development, along with being an important aspect of responding to neuronal insults from injuries and diseases.

GMS 6735 *Neuropharmacology*

Summer

This course is designed to probe our understanding of the molecular, cellular, and chemical foundations of neuropharmacology. This course will provide information on neuronal regulatory systems in the brain, and recent advances in our understanding of neuropsychiatric disorders and the mechanisms of actions of drugs used for these disorders.

GMS 6771 *Aging and Neuroscience*

This course covers topics of interest in aging including theories of aging including oxidative stress and inflammation as well as translational research covering neurodegenerative diseases of aging, such as stroke, ALS, Parkinson's disease and Alzheimer's disease.

GMS 6772 *The Spinal Cord*

Spring

This course is designed to present an overview of the spinal cord: anatomy, normal development, physiology, pathology of the spinal cord, and current and future treatments for injuries and diseases affecting the spinal cord. The format of the course consists of lectures and interactive sessions led by faculty members

GMS 6773 *Stem Cells and Brain Repair*

Spring

The goal of this course is to familiarize the students with some of the basic issues in stem cell research today, specifically as they relate to the treatment of brain injuries and disease. The format for the course is a combination of lecture and discussion of current and seminal articles in the field. Each student will be expected to have read the material in advance and be able to discuss it in class.

GMS 6830 *Supervised Teaching*

Variable

The overall objectives of *Supervised Teaching* are to provide graduate students with a "hands on" experience in teaching. The student will learn the fundamentals of writing instructional objectives and how to use the instructional objectives in assessment of performance.

GMS 6940 *Supervised teaching*

Variable

This course is designed for Ph.D. students who passed their qualifying examination and wish to participate teaching in a course related to their thesis project.

GMS 7930 *Bioinformatics I & II*

Fall

Bioinformatics I & II is a 4 credit advanced course designed to introduce graduate students to the growing area of science that uses computational approaches to answer biological questions.

GMS 7930 *Selected Topics – SIPAID*

GMS 7930 *Selected Topics – Immunology*

GMS 7930 *Selected Topics - Clinical Allergy*

GMS 7930 *Selected Topics - Infectious Disease*

GMS 7930 *Selected Topics - Molecular Pharmacology & Physiology*

STUDENT PLEDGE OF HONOR

University of South Florida

College of Medicine Student Honor Code

PREAMBLE

In the tradition of the high standards of professional and personal conduct established over two thousand years ago by our ancestral physicians and scientists, the student of the University of South Florida College of Medicine create this Honor Code.

It is our intention that these standards guide us not only during our medical training, but also during our lives as physicians, researchers, and community leaders. In these roles, we hope to pursue actively the respect of our patients, peers, and fellow men and women, rather than to accept passively any respect that may be given our title.

We recognize that the practice of medicine is a great privilege and carries with it the responsibility to uphold certain expectations of character and behavior. These principles have long been held as the foundation of ethical medicine, and we must recognize that fact as we now enter the medical community. The central elements of the oaths and creeds repeated over history by those entering medicine comprise the ideals of Self-discipline, Judgment, Conscience, and Personal Responsibility.

SELF-DISCIPLINE: We will strive to master the information presented to us in the classroom, laboratory, and clinic, and will conduct ourselves in a manner befitting our role as healers, scientists, and leaders.

JUDGEMENT: We will adopt only the highest standards and ideals to shape our actions and decisions concerning academic, professional, and personal affairs.

CONSCIENCE: We will hold life in the highest regard, whether human or animal and will strive to uphold human dignity.

PERSONAL RESPONSIBILITY: We will deal honestly with our patients and colleagues, and will encourage such behavior in others by example. We recognize that personal accountability can be delegated to no higher authority than oneself.

Appendix: Guidelines for Student Conduct (as described in the GMS 6001 syllabus):

Academic Dishonesty & Disruption for Academic Process Policy

See <http://www.ugs.usf.edu/catalogs/9697/ADADAP.HTM>

Plagiarism & Punishment Guidelines for Plagiarism:

See <http://www.ugs.usf.edu/catalogs/9697/ADADAP.HTM>

Plagiarism is defined as “literary theft” and consists of the unattributed quotation of the exact words of a published text, or the unattributed borrowing of original ideas by paraphrase from a published text. On written papers for which the student employs information gathered from books, articles, or oral sources, each direct quotation, as well as ideas and facts that are not generally known to the public at large, or the form, structure, style of a secondary source must be attributed to its author by means of the appropriate citation procedure. Only widely known facts and thoughts and observations original to the student do not require citations. Citations may be made in footnotes or within the body of the text. Plagiarism, also, consists of passing off as one’s own, segments or the total of another person’s work.

Cheating is defined as follows:

- (a) the unauthorized granting or receiving of aid during the prescribed period of a course-graded exercise: students may not consult written materials such as notes or books, may not look at the paper of another student, nor consult orally with any other student taking the same test;
- (b) Asking another person to take an examination in his/her place;
- (c) Taking an examination for or in place of another student;
- (d) stealing visual concepts, such as drawings, sketches, diagrams, musical programs and scores, graphs, maps, etc., and presenting them as one's own;
- (e) Stealing, borrowing, buying, or disseminating tests, answer keys or other examination material except as officially authorized, research papers, creative papers, speeches, etc.
- (f) Stealing or copying of computer programs and presenting them as one's own. Such stealing includes the use of another student's program, as obtained from the magnetic media or interactive terminals or from cards, print-out paper, etc.

Punishment for such Academic Dishonesties will depend on the seriousness of the offense and may include receipt of an “F” or “O” grade on the subject paper, lab report, etc., an “F” in the course, suspension or expulsion from the University. The University drop policies and forgiveness policies shall be suspended for a student accused of plagiarism or cheating or both.

Social Media Participation Guidelines

The [USF Health Office of Communications and Marketing](#) provides guidelines as to how the Morsani College of Medicine supports institutional communication goals through social media platforms (e.g. Facebook, Twitter, YouTube, LinkedIn, Pinterest, and Instagram). Institutional representation via online social media platforms must only be initiated and authorized through the [USF Health Office of Communications and Marketing](#) and the University of South Florida [Information Technology](#) (IT). Any sites or pages existing without prior authorization are subject to review when discovered and may be removed.

University of South Florida Morsani College of Medicine email addresses should not be used in conjunction with unofficial or personal social media accounts and profiles. Remember, everything you do online can and will live forever. Think before you post. A closed network is not necessarily private. It can and will be shared, stored and spread globally. Do not post anything online you would not feel comfortable seeing on the front page of a newspaper, or on national television. Balance your professional and personal social media presences.

Social media responsibility is an important aspect of professionalism. All Morsani College of Medicine colleagues – including students – must adhere to the following:

- Know and follow University guidelines from the [Office of Rights and Responsibilities](#) and [Responsible Computing](#).
- When discussing Morsani College of Medicine, or matters related to Morsani College of Medicine, you must make it clear that you are speaking for yourself and not on behalf of the Morsani College of Medicine. If you publish content to any website outside of the University of South Florida Morsani College of Medicine and it involves work you do or subjects associated with the University of South Florida Morsani College of Medicine, use a disclaimer such as: "The views expressed on this blog; website are my own and do not reflect the views of the University of South Florida Morsani College of Medicine."
- You are personally responsible for content you publish. Be aware that what you publish on blogs, wikis, social networks, or any other form of user generated media will be public and often cannot be edited or removed. Use a personal email address. Do not use your XXXX@health.usf.edu address as your means of identification for social media participation.

- Respect copyright and fair use laws. This includes not publishing material owned by the University of South Florida or the University of South Florida Morsani College of Medicine.
- Do not disclose confidential or proprietary information. Do not disclose information related to the Morsani College of Medicine that is not public. Perception is reality. If you identify yourself as a Morsani College of Medicine student, ensure your profile and related content is consistent with expected behaviors. In social media, the lines between public and private, personal and professional are blurred. By identifying yourself as associated with the Morsani College of Medicine, be sure that all content is consistent with Morsani College of Medicine's values and professional standards.
- Contact USF Morsani College of Medicine Office of Graduate and Postdoctoral Affairs, or USF Health Office of Communications and Marketing if you have questions or are unsure about the application of these guidelines to your social media activities.
- Additionally, do not ask faculty or staff who have a scheduling or evaluation relationship with you to join your social media site(s).
- Be aware that you must maintain a professional behavior at all times, even when you are off duty, off campus, etc.



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