



USF SYSTEM

New Academic Degree Program Authorization Pre-Proposal Form

New Academic Program Pre-Proposal Process

New academic program pre-proposals are initiated and developed by the faculty. Approval of the pre-proposal must be obtained from department chairs and college deans or equivalent administrators before submission for USF System level review and consideration for inclusion in the USF Annual Work Plan. Details of the pre-proposal [process and a timeline](#) can be found on the [Office of Institutional Effectiveness, Academic Program Planning and Review](#) website.

Original copies of completed pre-proposals (including required signatures) must be submitted by **October 1st** to Dr. Sondra J. Fogel, BEH 339. (For questions: sfogel@usf.edu; 4-5078)

Pre-proposal Application Form

PROGRAM PROPOSAL INFORMATION	TYPE/PRINT CLEARLY
Degree Program (Major) Name (e.g. M.A. in Biology)	Translational Neuroscience
CIP Code	30.2401
Are any other academic programs at USF offered under this CIP code? If yes, list them:	No. Only FSU has graduate students under this code
USF Institution	Tampa Campus
College/ Division	All
Department	All
Target date for first admission (e.g. Fall 2012)	Fall 2013

Please provide a succinct, thorough response to each of the following:

1. Describe the need and demand for this program. In the narrative, include data that will support your request

One of the major strengths of USF is in the field of Neurosciences. One of the few campus-wide programs is the Neuroscience Collaborative, which includes most colleges on the Tampa campus. This program has distributed over a million dollars in research support specifically targeting interdisciplinary (cross-college/department) proposals. However, as of yet there is no educational component to enhance these interactions across the Tampa campus. This proposed doctoral program will begin to fill this need for an educational program to compliment the ongoing research activities supported by the Collaborative. The directors of the Collaborative, Drs. Cliff Gooch and David Diamond, enthusiastically support this initiative. Dr. Diamond has agreed to serve on the organizing committee. Although students interested in Neuroscience have training opportunities through the PhD in Medical Sciences, or the PhD in Psychology, there is no degree that specifies "Neuroscience" in its title here at USF. Moreover, there is no degree program that trains students in Neuroscience as intensively or with as much breadth as the present program. In the US, there are over 20 million individuals with diseases of the nervous system, and over 30 million with sensory challenges such as hearing and vision impairments or lapses of memory. These are major problems affecting the well-being of individuals and the capabilities of the workforce. Developing the next generation of researchers dedicated to applying research knowledge to reducing human neuroscience associated problems is a great, unmet need in the scientific workforce.

One of the key elements in the NIH Roadmap is to increase the rate of translation of laboratory research discoveries to application in solving human problems. Often this involves laboratory scientists having to work with human research specialists and health care professionals (physicians, nurses, neuropsychologists, pharmacists). Often health care professionals are tasked with maintaining large patient volumes and have little time available to develop and implement research protocols. Increasingly, health care and other professionals lack training in research design and implementation. As a result, there is a need for specialists trained to comprehend the science associated with laboratory discoveries, but further trained in the nuances associated with research involving human subjects. This type of team approach to solving the most pressing scientific problems is replacing the cottage industry of individuals directing their own research group. Research led by "physician-scientists" have largely disappeared due to the challenges of maintaining both a top-rate research program as well as clinical/surgical skills.

A final need at USF is for the development of new and innovative doctoral programs to attract the best and brightest students nationally. This proposal is taking a novel tact to doctoral education which we believe will attract a higher caliber of students than the present, uni-disciplinary programs. We believe new, innovative and integrative PhD programs will increase the overall quality and quantity of doctoral candidates attending USF.

There is already a high demand for such individuals able to bridge this gap in medical schools and hospital settings. Moreover, pharmaceutical and biotechnology companies find it necessary to send their staff to receive training on these topics for the human subjects research they perform. Such individuals are increasingly needed in engineering and cognitive science fields outside the biomedical realm. We believe there is a sizeable market for PhDs trained in neuroscience problem solving that will possess this unique interdisciplinary skill set. Moreover, we believe they will have novel ideas for solutions to the more vexing problems because of their unique training background.

This program is being developed by an intercollege committee with representatives from Medicine, Arts and Sciences, Community and Behavioral Sciences, and Engineering. David Morgan, PhD, Medicine is spearheading this effort, but all decisions will be made through consensus of the committee. Importantly, the program does not just focus on medical applications, but applications from any discipline that can be applied to human subjects using experimental procedures.

1. Provide information on the available resources and capacity for your program. In your response, include faculty availability and student support resources including the library. How will department/college resources be shifted to support the program?

There are already a number of courses being offered at USF which could fit the needs of this program. There are a series of PhD level courses in neurosciences offered by the College of Medicine and in Arts and Sciences. In addition, there are courses on clinical research offered through a K30 program "Scholar in Patient Oriented Research" directed by Dr. Ken Zuckerman (Moffitt/USF). Many of the courses in this program, intended to train physicians in clinical research skills, can readily accept PhD students as well (clinical research design, IRB issues, grant writing). Courses in statistics and research design are available through Colleges of Arts and Sciences, Community and Behavioral Sciences, and Public Health. We anticipate there may be a need for one or two additional courses, but curriculum details are still a matter of ongoing discussion. Further, we do not wish for this to become a course intensive doctoral program.

Although final decisions have not been made, one possibility is that the academic home for the program be through the USF Graduate School, and this option has been mentioned to Dean Liller. In addition, the Byrd Alzheimer Institute is willing to serve as the physical home for this program. Dr Morgan, who is leading this PhD initiative, is also the CEO/scientific director of the Byrd Institute, and is willing to set aside office space to house students in their first year of the program, and specify staff effort to assist the students.

2. What are the primary goals of the new academic program?

The goals of the program are to

1. Develop a cross campus doctoral program in Neuroscience that will attract high caliber, highly motivated students who plan independent research careers.
2. Fill the need for independent investigators able to make rapid translation of laboratory discoveries in neurosciences into beneficial products and applications to address human problems.
3. Cross-train students in laboratory and human subjects research who will be able to bridge the gap between laboratory discovery and clinical applications to humans with the capability of serving in research teams.

3. What is distinctive about this program within the USF System and the State University System? Address any duplication issues.

The distinctiveness arises from the translational component, especially when combined with Neuroscience. Most PhD programs focus solely on either laboratory research or research on human populations, but not both, and especially not the bench-to-bedside interface between the two. Moreover, there is no current PhD in Neuroscience at USF, nor is there a PhD program intended to train PhD students to engage in Clinical Research.

- 4a. List any other state institutions that have similar programs.

There are doctoral programs in Neuroscience at other universities, but none of these have a translational component. Programs at FSU and FAU (in association with Max Planck) have a PhD program with Neuroscience in the title. University of Florida and Scripps have PhD programs in Biomedical Sciences that have a concentration in Neuroscience. However, all of these have a strict focus on laboratory/animal model research. UCF does not appear to have a Neuroscience doctoral concentration.

4. Does this program offer collaborative and/or interdisciplinary opportunities at other institutions in the USF and SUS systems? If so, what efforts have been made to initiate collaboration?

There are clear opportunities to interact with other components in the USF system and other SUS universities. Essentially every other medical school and neuroscience research group in the SUS could benefit from this program and collaborate with its investigators. At this early stage we have not yet initiated these connections.

5. Please list the Learning Outcomes for the program (undergraduate programs must comply with BOG Regulation 8.016 "Academic Learning Compacts").

The outcome of this program is to produce students cross-trained to understand laboratory research in neuroscience with more intensive training in applications to studies in humans.

1. These students will be capable of understanding laboratory/animal research studies in the field of neuroscience and to critique them rigorously.
2. Students also will demonstrate through their own research activities the unique skills of formulating, designing, recruiting and executing research studies in human populations, in full compliance with all regulations applying to such research.
3. Students will understand and, in most study designs, perform the necessary data analysis methods to interpret their results.
4. Students will learn how to participate in collaborative research as part of interdisciplinary teams.

7. How does this program support the institutional, USF System, and SUS Strategic Plans?

This unique program will elevate the reputation of USF as an innovative and forward thinking university. It will meet the following goals of the USF Strategic Plan

Goal I

Expanding world-class interdisciplinary research, creative, and scholarly endeavors. The field of neuroscience is one of the first interdisciplinary approaches in the last 50 year. Including the translational component to this program will certainly meet the goals of being innovative and forward thinking indicated here

Goal II

Promoting globally competitive undergraduate, graduate, and professional programs that support interdisciplinary inquiry, intellectual development, knowledge and skill acquisition, and student success through a diverse, fully- engaged, learner-centered campus environment. This will be a graduate program which is by nature interdisciplinary, especially given the engagement of multiple colleges in the program faculty. Students will be acquiring new skills with unique intersections of the literature and skill sets that will position them for roles that are increasingly required in scientific endeavors to apply fundamental knowledge in the neurosciences to real-life human problems.

Goal III

Expanding local and global engagement initiatives to strengthen and sustain healthy communities and to improve the quality of life. This program will help to sustain healthy communities by training scientists who can transfer basic science findings into meaningful improvements in treatment and prevention of disease and disabilities.

With respect to the SUS strategic plan this program meets the following goals:

Goal 2: Meeting statewide professional and workforce needs. This program will train a new cadre of scientists who will add to the increasing number of highly skilled researchers in the state of Florida. As they develop their research programs and obtain external support for their research they will be hiring Floridians into highly skilled well paid positions.

Goal 3: Building world-class academic programs and research capacity. This program will achieve national and international recognition from its unique and innovative intersection of the translational and neuroscience training components. This will expand the research capacity of USF, and as graduates move outside the USF community, it will enhance the research capacity nationally as well.

Goal 4: Meeting community needs and fulfilling unique institutional responsibilities. The institution has a responsibility to find mechanisms by which the discoveries made in its laboratories and clinical settings can find its way to impacting the lives of people in the community that supports it. The translational emphasis in this program will accelerate this transition and hopefully be recognized as a tremendous benefit to the community, state and nation.

Lastly, having an innovative Neuroscience Ph.D. Program at USF will increase the quality and quantity of Ph.D. applicants.