USF SYSTEM

Request to Establish a New Academic Major/Program or Degree Type Under an Existing CIP Code

Process to Establish a New Academic Major/Program or Degree Type

Requests for new majors/programs or degree types are initiated and developed by the faculty. Approval of the new major/program must be obtained from department chairs and college deans or equivalent administrators before submission for the USF Institution Faculty Council review and approval. Once approved the new option is added to the USF System Degree Inventory.

DEPARTMENT CONTACT INFORMATON	TYPE/PRINT CLEARLY
USF Institution	USF Tampa
College	College of Arts and Sciences
Department	Cell Biology, Microbiology, and Molecular Biology (CMMB)
Contact Person	Kenneth Wright
Phone	813-745-3918
Email	Ken.wright@moffitt.org kewright@health.usf.edu
Chartfield (Budget Acct #)	TPA-1210000-10000-CAS032-0000000-64200

New Program Application Form

NEW PROGRAM INFORMATON	TYPE/PRINT CLEARLY
Degree and Program Title (e.g. M.A. in Biology)	Ph.D. in Cancer Chemical Biology
CIP Code (Existing CIP)	26.0911
Graduate Program Name	Cancer Biology
Total Credit Hours	96
Proposed Mode of Delivery (% online if applicable)	In class
Enrollment Projections (FTE) : Year 1 and Year 5	Year 1: 2 Year 5: 5
Projected Cost per FTE	Year 1: $0 taught at Moffitt Year 5:
Proposed Implementation Date (e.g. Fall 2014)	Fall 2018

New Academic Major/Program or Degree Type in an Existing CIP Code

Signature Page

Degree and Major/Program Title (e.g. M.A. in Biology)	Ph.D. in Cancer Chemical Biology

APPROVALS	Name	Signature	Action	Date
Initiating Faculty	Kenneth L. Wright	Kenneth L Wright	Requests Approval	
Dept. Chair	Charles Chalfant		☒ Approve ☐ Disapprove ☐ Comments attached	03/26/18
COLLEGE APPROVALS				
College Committee Chair			☐ Approve ☐ Disapprove ☐ Comments attached	
College Dean or Designee	Robert Potter	Robert Potter for	☒ Approve ☐ Disapprove ☐ Comments attached	4-4-18
Concurrence* ☐ Not Applicable	Dept: Chemistry Chair: Wayne Guida		☒ Concurs ☐ Doesn't Concur ☐ Comments attached	
Concurrence* ☒ Not Applicable	Dept: Chair:		☐ Concurs ☐ Doesn't Concur ☐ Comments attached	
USF Library Dean or Designee ☒ Not Applicable			☐ Approve ☐ Disapprove ☐ Comments attached	
Faculty Council Chair or Designee			☐ Approve ☐ Disapprove ☐ Comments attached	
Undergraduate or Graduate Studies Dean or Designee			☐ Approve ☐ Disapprove ☐ Comments attached	
System Office of Institutional Effectiveness			Notified on _____	

Routing:

Once approved by College; College will forward to the appropriate USF Institution undergraduate or graduate office for processing through the Faculty Council. Once approved by the Council, the proposal is sent to APPCC for review and approval (unless a doctorate, in which case it is for information only). Upon final approval by the Provost, the new major code for the Program may be created by the Registrar and the VZ application may be activated. The Program will be then be added to the USF System Degree Inventory and posted in the Catalog.

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

Program Summary: (*Briefly describe the proposed program*)

1. Briefly summarize the overall rationale for the new graduate program. Include a consideration of any ways in which the proposed graduate program is distinct from others already offered in the SUS (use the 4-digit CIP as a guide). Discuss how this program supports specific university and SUS missions. Consider collaborative opportunities with other SUS institutions as appropriate. (maximum length 250 words)

This new Major is to train future leaders and experts in cancer chemical biology with exceptional skills to solve cancer problems by integrating approaches that use chemistry and biology tools and techniques. Although chemical biology is an emerging field, there is currently no cancer chemical biology major for graduate students across the country, making this Major a first-of-its-kind offering in the USA. This collaborative PhD major between USF and the Moffitt Cancer Center leverages the national recognition of both institutes and the leading cancer chemical biology research by faculty at Moffitt Cancer Center. The combined strength will attract the best students nationally and internationally to the USF who upon graduation will be leaders in the field. This increase in PhD students mentored by renowned faculty will help promote USF into the top 25 of graduate research education. The fusion of the top PhD students with the cutting-edge research faculty will help position USF as a top 100 research university through high impact research publications, competitive grant applications, and pre-doctoral fellowship applications. Finally the increased concentration of highly trained cancer chemical biologists with leading-edge training in cancer drug discovery and chemical biology will be attractive to the growing biotech industry in Florida and assist in attracting additional companies and startups to the area, which in turn will stimulate and contribute to the local economy.

2. Briefly describe how the proposed new graduate program differs from the existing program(s) at USF. (maximum length 250 words)

This major is unique at USF, with specific focus on cancer chemical biology blending chemistry with immersive education in cancer biology. USF does not currently provide graduate majors in Cancer Chemical Biology or Chemical Biology. This Cancer Chemical Biology major is also distinct from the existing Cancer Biology major. The research projects for the graduate students will be driven by both chemistry and biology, offering an integrated cancer chemical biology thesis study. Cancer drug design and discovery will be a key component of the curriculum. The thesis studies for this major are expected to develop and use chemical probes and tools to explore and address the underlying questions for cancer biology.

Student Demand: *(Describe the demand in the SUS for the proposed graduate program)*

3. Briefly describe the demand for the proposed graduate program and consider the following in your narrative:
    - Recognizing that programs at different levels may require different degrees of justification (e.g., greater duplication may be warranted at undergraduate and master's levels), indicate why duplicative programs should be warranted.

- Consider the numbers of graduates and students enrolled at similar programs currently offered online or face-to face.
- Consider as applicable: place-bound learners, underserved populations in the field/profession, and professional credentials requirements. (maximum length 250 words)

The Moffitt Cancer Center has a large group of faculty who focus on cancer drug discovery, medicinal chemistry, chemical biology, and molecular pharmacology research. It is also the central hub for translational cancer drug discovery research and clinical trials in Florida, providing a unique training environment for graduate students. Students recruited to this graduate major are expected to have the opportunity to work in a multidisciplinary and highly translational environment, only offered by the cancer-focused clinical and research environment at USF and the Moffitt Cancer Center. The Ph.D. graduates from this program will have the skill sets to be employed in the pharmaceutical and biotechnology industry, academia, and multidisciplinary cancer-focused research institutes and hospitals, helping to discover novel probes to unravel the mechanisms underlying oncogenesis as well as develop innovative anticancer drugs. There are no comparable majors at the USF and SUS.

Workforce and Economic Development Needs: *(Describe how the proposed program meets workforce and economic development needs)*

4. Briefly describe how the proposed program meets workforce and economic development needs and consider the following in your narrative:
    - Impact of this program (local, state, national, international)
    - Impact of research funding
    - Changing professional credential requirements (maximum length 250 words)

Cancer Chemical Biology underpins many translational team-based research projects contributing to the prevention and cure of cancer. This new major is a STEM major with a high demand from prospective students and a rapidly growing job market. The Tampa Bay area and Florida continue to grow as a key hub for biomedical research and service. Graduates of the Cancer Chemical Biology major will be uniquely trained in both chemical approaches and cancer biology. This training will present significant career opportunities for our graduates in both industry and academic settings. The students in this PhD program will also contribute to the research endeavor supporting current research grants and collecting new data to support additional grant applications.

Student Learning Outcomes:

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

(1) Students will need to demonstrate command of medicinal chemistry and chemical biology literature for cancer research

Course and Faculty Information:

6. Provide a list of the required courses for the new graduate program. (Include course prefix, number, title and credit hours). Please place an (*) next to those the will be newly created for this program.

New courses will be offered under BSC 6939 - Selected Topics in Cancer Biology until the new courses are approved.

BSC 6457 - Modern Basic Tools of Research (2 credit hours)
PCB 6230 - Cancer Biology I: Basics of Molecular Oncology (3 credit hours)
CHM 6263 - Advanced Organic Chemistry I: Physical Organic Chemistry (3 credit hours)
PCB 6910 - Laboratory Rotations (1-3 credit hours)
* Cancer Drug Discovery (3 credit hours)
One required elective chosen from:
A. CHM 6250 - Advanced Organic Chemistry: Synthesis (3 credit hours)
B. BCH 6746 - Structural Biology (3 credit hours)
BSC 6939 - Selected Topics in Cancer Biology: Grant Writing (1 credit hour)
* Advances in Cancer Chemical Biology and Cancer Research (4-12 credit hours)
PCB 6930 - Current Topics in Oncology (4-8 credit hours)
PCB 6932 - Bioethics for Cancer Researchers (1 credit hour)
BSC 7911 - Directed Research (1-12 credit hours)
BSC 7980 - Dissertation Research (minimum 24 credit hours)

7. Provide a list of the faculty who will be teaching courses in the new graduate program and the percentage of effort they will be providing.

Faculty course directors for this major (listed below) are at the Moffitt Cancer Center with Educational faculty appointments in CMMB. With the exception of the ongoing CHM 6263, CHM 6250, and BCH 6746 courses, the courses for this major will be taught and occur at the Moffitt Cancer Center. Thus they will not directly impact USF faculty effort.

<u>Faculty Course Directors – new courses</u>
Dr. Haitao (Mark) Ji, 10%
Dr. Uwe Rix, 5%
Dr. Ernst Schonbrunn, 5%
Dr. Justin Lopchuk, 5%

<u>Faculty Course Directors – existing courses at MCC</u>
Conor Lynch, PhD 10%
Kenneth Wright, PhD, 10%
Kiran Mahajan, PhD, 5%
Gary Reuther, PhD, 5%
John Koomen, PhD, 5%

Additional Information:

8. Does the new graduate program require additional library resources? Yes_____ No____xx_____
   If yes, please describe the additional requirements. (Approval must be obtained from the Dean of Libraries.)

Catalog Copy (Attach in Word)

9. Using the current Catalog copy for the existing graduate program, make the necessary curriculum revisions to the existing program (using track changes in Word) to reflect the degree requirements of the new program and attach the revised catalog copy.