

## Structure of UC San Diego SSPPS PharmD/PhD Program

### GENERAL STRUCTURE OF PROGRAM:

Students are selected for entry into the PharmD/PhD program from among 1st and 2nd year students who are currently enrolled in the SSPPS PharmD curriculum, although prospective students are encouraged to indicate their potential interest in dual degree training as early as the application and recruitment process. Applicants must be highly motivated and committed to improving health care through the conduct of research, as demonstrated by their ability to perform and aptitude for conducting research. Students admitted to the program complete all required coursework in the PharmD curriculum. During the summers between the first and second and second and third years, students explore research opportunities through laboratory rotations with qualified Biomedical Sciences (BMS) Program Faculty at UC San Diego, or adjacent research institutes with programs affiliated with BMS, such as the Sanford Burnham Medical Research Institute or the Salk Institute for Biological Studies. Stipends and fellowships are typically available to support the summer research experiences. Questions regarding financial aspects of the program should be directed to Associate Dean Andrina Marshall. Early in the third (2+PhD+2 preferred option) or fourth year (3+PhD+1 option) of the curriculum, students select a graduate program and laboratory/mentor for thesis studies in the BMS Graduate Program. Once the candidate has completed all of the requirements for the PhD degree, students return to complete the balance of their PharmD degree coursework and Advanced Pharmacy Practice Experience requirements. Following successful completion of all of the program requirements, the candidate will be awarded both the PharmD and the PhD degrees. It is anticipated that the program will take, on average, between seven (7) and eight (8) years for achieving the requirements of the joint degrees.

**Table:** General Structure of the UC San Diego PharmD/PhD Curriculum Options

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
SSPPS PharmD/PhD 2+PhD+2 Structure	Preclinical PharmD Curriculum (Years 1-2)		PhD Research Training Successful Thesis Defense (Typically 3 – 4 years)			Preclinical PharmD Curriculum (Year 3)	Advanced Pharmacy Practice Rotations
SSPPS PharmD/PhD 3+PhD+1 Structure	Preclinical PharmD Curriculum (Years 1-3, complete)			PhD Research Training Successful Thesis Defense (Typically 3 – 4 years)			Advanced Pharmacy Practice Rotations

### **PREFERRED OPTION A: 2+PhD+2 Structure**

Students admitted to the program in the 2+PhD+2 option complete all required coursework in the first two years of the PharmD curriculum. During the summer between the 1st and 2nd year, students will explore research opportunities through laboratory

rotations at UC San Diego and at adjacent research institutes with faculty that hold a primary affiliation with the UC San Diego BMS Graduate Program, completing 2 rotations. During the summer after the second year of the PharmD program, students must complete their 3<sup>rd</sup> required rotation, and matriculate into the laboratory of the mentor chosen for the PhD thesis project/dissertation no later than the beginning of the fall quarter. *Students with excellent prior research experience and commitment to dual degree training considering the 2+PhD+2 option are encouraged to arrange a first laboratory research rotation during the summer prior to matriculation into the PharmD curriculum to accelerate the completion of rotation requirements and identification of the thesis laboratory.* Stipends and fellowships are typically available to support these summer research experiences.

Following successful completion of the second year of the PharmD curriculum and rotation requirements, students engage full-time in research for their PhD thesis project. Once they have completed all of the requirements for the PhD degree, students return to complete the third (preclinical) and fourth (Advanced Pharmacy Practice Experiences) years for the PharmD degree. Following successful completion of all of the requirements, the candidate will be awarded both the PharmD and the PhD degree; the program will take, on average, 7-8 years to complete requirements for the joint degrees.

An advantage identified by certain students and faculty of the 2+PhD+2 option is the ability to reintegrate with the PharmD curriculum in Year 3, which includes activities and processes geared to prepare students for, and to schedule the sequence and electives within, the Advanced Pharmacy Practice Experiences of the traditional 4<sup>th</sup> year. However, to achieve the 2+PhD+2 option, an extra premium is placed on completing research rotations efficiently and constructively during the first summer with a mind to identification of a thesis laboratory, and thus it requires an early commitment and focus toward the dual degree program. Completion of a qualifying BMS research rotation in the summer prior to matriculation at SSPPS can help achieve this goal.

All PharmD/PhD candidates will be instructed to set up regular annual meetings with the IPPE Director. These meetings will begin early in the PharmD 2<sup>nd</sup> year to ensure a specific individualized plan is established to ensure completion of the Introductory Pharmacy Practice Experience (IPPE) 300 hour requirements in a fashion that is never rushed or haphazard, but rather optimized for learning. For students following the 2+PhD+2 mechanism, it is understood that these students will need to take time during their PhD training to complete the IPPE requirements. The PhD advisor will assent to this requirement and understand that this training will be scheduled during the PhD years in addition to the graduate coursework requirements of the BMS program.

### **ALTERNATIVE OPTION B: 3+PhD+1 Structure**

Students admitted to the program in the 3+PhD+1 option complete all required coursework in the first three years of the PharmD curriculum. During the summers between the 1<sup>st</sup> and 2<sup>nd</sup> years, students will gain research experience through laboratory

rotations at UC San Diego and at adjacent research institutes with faculty holding a primary affiliation with the UC San Diego BMS Graduate Program, completing 1-2 rotations. During the summer after the 2<sup>nd</sup> year of the PharmD program, students must complete their 3<sup>rd</sup> required rotation, and matriculate into the laboratory of the mentor chosen for the PhD thesis project/dissertation no later than the beginning of the fall quarter. Stipends and fellowships are typically available to support these summer research experiences.

Following successful completion of the 3<sup>rd</sup> year of the PharmD curriculum and rotation requirements, students engage full-time in research for their PhD thesis project. Once they have completed all of the requirements for the PhD degree, students return to complete the 4<sup>th</sup> year (Advanced Pharmacy Practice Experiences) for the PharmD degree. Following successful completion of all of the requirements, the candidate will be awarded both the PharmD and the PhD degree; the program will take, on average, 7-8 years to complete requirements for the dual degrees.

Students following the 3+PhD+1 mechanism students are expected to have already completed all of their IPPE coursework, but will not have the benefit of reentry into the 3<sup>rd</sup> year curriculum prior to beginning APPE rotations. In order to maintain connection with clinical pharmacy and emerging themes in therapeutics and practice guidelines, these students will be expected to identify avenues to maintain their clinical knowledge base throughout their PhD training.

### **UC San Diego SSPPS PharmD/PhD Key Contacts**

Graduate Training Advisor and Program Co-Director: Victor Nizet, MD  
PharmD Curriculum Component Coordinator: Brookie Best, PharmD, Associate Dean  
Coordination with Experiential Learning: Alex Luli, PharmD, IPPE Director  
Graduate Affairs Director: Leanne Nordeman  
Financial Planning Coordinator: Andrina Marshall, Associate Dean  
Student Affairs Director: Jenna Bastear

## Specific Guidelines for PharmD/PhD Candidates within the Biomedical Sciences PhD Program

### I. APPLICATION

Pharmacy students applying to the PharmD/PhD program are expected to submit an application to the Biomedical Sciences (BMS) Graduate Program online through UC San Diego's Graduate Division Application Manager during the Fall Quarter of the second year (2+PhD+2 preferred option) or third year (3+PhD+1 preferred option). The application will be significantly abbreviated and certain required documents will be covered by the student's SSPPS PharmD application. Specific requirements may differ from year to year, so students will be instructed to contact both the PharmD/PhD Program Co-Director and the BMS Graduate Affairs Director to begin this process. Once the student submits their application and accepts their offer, they may begin enrolling in graduate coursework for the following year.

### II. COURSE WORK AND ROTATIONS

(A) Graduate coursework during PhD training in the Biomedical Sciences curriculum will be equivalent to that of MD/PhD (MSTP) students. Specifically, students are exempt from the Fall Semester core courses BIOM 200A and B, "*Molecules to Organisms: Concepts*" and "*Molecules to Organisms: Approaches*". However, PharmD/PhD students are required to take the Fall seminar course (BIOM 201) and to complete all Biomedical Sciences advanced course work (electives) as required of other categorical PhD graduate students in the program. Graded core courses for first year graduate students in the Biomedical Science Program are not required for UC San Diego pharmacy students. The applicability of previous course work toward the Biomedical Sciences Graduate Program course requirements will be evaluated on an *ad hoc* basis. However, elective requirements (15 units total; 8 for a letter grade) are the same for all students.

(B) PharmD/PhD students must have conducted research in at least two laboratories of UC San Diego faculty other than their thesis advisor. PharmD/PhD students will be guided to complete these laboratory rotations taken during the summers before the first year, between the first and second years, or between the second and third years of the pharmacy school curriculum to fulfill this requirement. At least **two** laboratory research experiences must have been in the laboratory of a member of the BMS Program.

(C) PharmD/PhD students are required to successfully complete the Research Proposition Exam during the Fall quarter of their first year of PhD training in the Biomedical Sciences Graduate Program. This is a requirement for further advancement in the graduate program. PharmD/PhD students are also required to successfully complete the Advancement to Candidacy Exam by the Fall of their second year of PhD training. Failure to complete these requirements on time will result in blockade of registration and financial support until the requirements are met.

(D) The significant teaching and outreach experience that is comprised within the PharmD

curriculum will satisfy the 1-quarter Teaching/Outreach requirement as described in Section V of the general guidelines. Thus PharmD/PhD students will not be required to perform additional teaching or outreach during their doctoral research studies in the BMS program.

### III. REGISTRATION REQUIREMENTS

A. The Graduate Council imposes the following requirements:

(1) If in any given quarter a student is spending the majority of his/her time within the graduate program the student must be registered as a graduate student that quarter.

(2) To receive the Ph.D. degree a student must be registered as a graduate student for a minimum of 6 academic quarters, three of which are continuous. OGS has waived the requirement that students be registered as graduate students in the quarter they receive their degree if they are registered in the School of Pharmacy during that quarter.

### IV. COMPLETION OF RESEARCH WORK/RETURN TO PHARMACY TRAINING

All requirements for the PhD degree must be completed prior to leaving the graduate program to return to pharmacy training. This includes completion of the Research Proposition and the Advancement to Candidacy examinations, writing and defense of the thesis, and submission of the completed thesis manuscript to the library, according to OGS guidelines.