INTERDEPARTMENTAL GRADUATE PROGRAM IN DYNAMICAL NEUROSCIENCE
http://www.dyns.ucsb.edu
College of Letters and Science
University of California, Santa Barbara

Student Name: _____   Perm:_____

DOCTOR OF PHILOSOPHY – DYNAMICAL NEUROSCIENCE – 2021-22

In addition to departmental requirements, candidates for graduate degrees must fulfill University requirements described in the "Graduate Education" section of the UCSB General Catalog.

*Upon matriculation, students must specify their selected area of specialization: complex neural networks or computational vision. A minimum of **38.0 units** is required for the Ph.D. The Ph.D. requirements are designed to provide maximum flexibility to accommodate individual student interests while also assuring a basic level of competence within Dynamical Neuroscience. Ph.D. candidates follow an integrated course of study recommended by their faculty sponsor (main advisor). The dissertation committee will be nominated by the end of the second year in consultation with the student and the main advisor. It will consist of at least three UC Academic Senate members. Two members of the committee must be tenure-track faculty members from the Dynamical Neuroscience Program, with the main advisor serving as chair or co-chair. The student may petition to have one UC Academic Senate member from outside the program on the his/her committee; this member may serve as*
co-chair. Time-to-degree: 3 years to advance to candidacy, 5 years to complete the Ph.D.

CORE COURSE REQUIREMENTS (16.0 units total)			
COURSE #	**COURSE NAME**	**UNITS**	**GRADE**
ECE 230A/ME 243A	Linear Systems I	4.0	
MATH 214A	Ordinary Differential Equations	4.0	
PSY 265	Computational Neuroscience	4.0	
PSY 269 *or* MCDB 251	Neuroanatomy Neurobiology I	4.0	

ELECTIVE UNITS			
At least 16 additional units of graduate coursework in dynamical neuroscience and in the student's area of specialization, exclusive of courses numbered 596-599. These courses will be individually selected from the following list by the student under the advice and consent of his/her mentor and approved by the steering committee.			
CMPSC 225/ECE 205A	Information Theory	4.0	
CMPSC 234	Randomized Algorithms	4.0	
CMPSC 265	Advanced Topics in Machine Intelligence	4.0	
CMPSC 281B/ECE 281B	Advanced Topics in Computer Vision	4.0	
ECE 230B/ME 243B	Linear Systems II	4.0	
ECE 235	Stochastic Processes in Engineering	4.0	
ECE 236/ME 236	Nonlinear Control Systems	4.0	
ECE 277	Pattern Recognition	4.0	
MATH 214B	Chaotic Dynamics and Bifurcation Theory	4.0	
MCDB 252	Neurobiology II: Molecular and Cellular Neurobiology	4.0	
MCDB 253	Neurobiology III: Developmental Neurobiology	4.0	
ME 215A	Applied Dynamical Systems I	3.0	
ME 215B	Applied Dynamical Systems II	3.0	
PHYS 219	Statistical Mechanics	4.0	
PHYS 223C	Concepts and Phenomena of Condensed Matter Physics	4.0	

PSTAT 207A	Statistical Theory	4.0	
PSTAT 207B	Statistical Theory	4.0	
PSTAT 207C	Statistical Theory	4.0	
PSTAT 213A	Intro to Probability Theory and Stochastic Processes	4.0	
PSTAT 213B	Intro to Probability Theory and Stochastic Processes	4.0	
PSTAT 213C	Intro to Probability Theory and Stochastic Processes	4.0	
PSY 221E	Statistical Analysis of fMRI Data	4.0	
PSY 228	Perception	4.0	
PSY 231	Cognitive Neuroscience	4.0	
PSY 232	Neuroimaging	4.0	

Enrollment in the Dynamical Neuroscience Graduate Seminar every quarter that the student is in residence at UCSB.		
COURSE #	**COURSE NAME**	**FULFILLED**
DYNS 592	Graduate Seminar in Dynamical Neuroscience	

WRITTEN QUALIFYING EXAM
Satisfactory performance on a written qualifying exam covering a broad synthesis of dynamical neuroscience at the end of the second year. This is a one-day exam that may cover any of the core course areas and the student's area of specialization.

Ph.D. Written Qualifying Exam passed on (date): _____

ORALS AND ADVANCEMENT TO CANDIDACY

Satisfactory performance on an oral qualifying exam administered by the student's dissertation committee. The exam will include the student's area of specialization and a defense of the dissertation prospectus. It should be taken by the end of the third year of study, at the latest. Students petition to be advanced to candidacy after passing both parts of this exam.

Ph.D. Oral Qualifying Exam passed on (date): _____

CAPSTONE REQUIREMENT

Students are required to write an original Ph.D. dissertation that demonstrates the candidate's ability to contribute significantly and independently to the field of dynamical neuroscience and the student's area of specialization. A public defense of the dissertation will be required of Ph.D. candidates. It may be waived only with the unanimous consent of the candidate's doctoral committee and the approval of the Graduate Council. Required coursework must be completed by the end of the quarter in which the dissertation is submitted. The student's Ph.D. Committee supervises the dissertation research, administers the dissertation defense, and certifies the completion of required coursework.

Doctoral Committee: Chair: _____

Member: _____

Member: _____

Additional Member (optional): _____

PH.D. DEGREE REQUIREMENTS SATISFIED: _____
                                                    Quarter/Year

DEPT GRADUATE ADVISOR SIGNATURE: _____

                          _____
                                            Print Name