USC University of Southern California

PROGRESSIVE MASTER'S DEGREE
PROGRAM COURSE PLAN

USC SCHOOL	Dornsife
ACADEMIC DEPARTMENT	Biological Sciences
GRADUATE PROGRAM	Developmental Origins of Health & Disease
POST CODE	
TERM EFFECTIVE DATE	Fall 2024

PROGRAM DESCRIPTION

A brief description of the graduate program.

The Developmental Origins of Health & Disease (DOOHD) program is timely, as it builds on new mechanistic insights, and is a topic not covered directly by current programs. Adverse genetic and environmental insults before and during intrauterine life can result in permanent changes in the offspring's physiology and metabolism, leading to increased risks of disease in adulthood. The period from conception to birth is a time of rapid growth, cellular replication and differentiation, and functional maturation of organ systems. These processes are susceptible to alterations in the intrauterine milieu. Prenatal health and disease programming investigates the molecular mechanisms whereby a stimulus or insult at a critical period of development impacts postnatal health and chronic disease incidence with attendant economic burdens. Relevant diseases include cardiovascular disease, psychiatric, allergy, obstructive lung disease, obesity, diabetes, osteoporosis, and certain cancers.

COMMON BACHELOR DEGREE PROGRAM PATHWAYS

A list of common bachelor's degrees that undergraduate students pursue in advance of pursuing a progressive degree option with this graduate program. Some programs are restricted to certain majors while others are open to all students.

Biological Sciences	Environmental Science and Health
Human Biology	Global Health Studies
Chemical Biology	Biochemistry
Neuroscience	

PREPARATORY UNDERGRADUATE COURSES

A list of courses at the undergraduate level that prepare students for the graduate program. Required coursework is listed first, followed by recommended courses. If not applicable, this section will be blank.

Dept. Prefix - Course #	Course Title	Required or Recommended	Units
BISC 120Lg	General Biology: Organismal Biology and Evolution	Required	4.0
BISC 121Lg	Advanced General Biology: Organismal Biology and Evolution	Required	4.0
BISC 220Lg	General Biology: Cell Biology and Physiology	Required	4.0
BISC 221Lg	Advanced General Biology: Cell Biology and Physiology	Required	4.0
BISC 320L	Molecular Biology	Required	4.0

BISC 330L	Biochemistry	Required	4.0
BISC 325	Genetics	Recommended	4.0
BISC 407	Cellular and Molecular Neuroscience	Recommended	4.0
BISC 421	Neurobiology	Recommended	4.0
BISC 315L	Introduction to Ecology	Recommended	4.0
BISC 305	Introduction to Statistics	Recommended	4.0

UNDERGRADUATE COURSES USED TO REDUCE GRADUATE LEVEL UNITS

A list of undergraduate level courses that may be used to reduce the number of graduate level units required for the graduate program. If there are none, that is specified instead.

Dept. Prefix - Course #	Course Title	Units
BISC 480	Developmental Biology	4.0
BISC 438	Nutritional Biochemistry	4.0
HBIO 435	Neurobiology of Feeding Behavior and Obesity	4.0
BISC 490X	Directed Research	1.0-8.0

CORE GRADUATE PROGRAM REQUIREMENTS (# units required)

A list of all required graduate courses for the graduate program. None of these courses may be used toward satisfying undergraduate degree requirements.

If special exceptions for any of these courses are made by the academic department, the course # is marked with an asterisk (*) and the exception is explained in the "Department Notes" section at the end of this course plan template.

Dept. Prefix - Course #	Course Title	Units
BISC 550a	Developmental Origins of Health & Disease	4.0
BISC 550b	Developmental Origins of Health & Disease	4.0
BISC 552a	Bioethics, Health Policy, and Human Development	2.0
BISC 552b	Bioethics, Health Policy, and Human Development	2.0
BISC 554	The Developing Human	2.0
BISC 555	Epidemiology of developmental origins of disease	1.0
BISC 556	Human Nutrition and DOOHD	1.0
BISC 557	Emerging technologies and studies in DOOHD	2.0
BISC 558a	Practical Survey & Research Methods in DOOHD	2.0
BISC 558b	Practical Survey & Research Methods in DOOHD	6.0
BISC 559	DOOHD Seminar Series (Fall & Spring)	2.0 + 2.0
JOUR XXX	Communicating your health story	2.0
BISC 587	Communicating Science & Health	4.0

PRE-APPROVED ELECTIVE COURSEWORK

Elective coursework is approved at the discretion of the academic department. Note the following details about the total number and units required of elective coursework.

	TOTAL ELECTIVE COURSES REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE
	TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

TOTAL UNIT COUNTS AND REQUIRED GRADUATE UNITS

32	**TOTAL UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE**
10	**TOTAL GRADUATE UNITS THAT MAY BE WAIVED (IF ANY)**
22	**MINIMUM NUMBER OF GRADUATE UNITS THAT MUST BE AT THE 500 LEVEL OR ABOVE**

NOTES FROM THE DEPARTMENT

This section highlights any unique considerations, exceptions, or requirements for the graduate program. If a program has specific restrictions (courses, majors, etc.), they are detailed below.

Name of Authorizing Master's Program Dean	**Date Approved**

Authorizing Dean's Title