Our individual lives emerge from a variety of interactions—from cells to human cultures—that shape our brain and behavior. The goal of this course is to illuminate these dynamics. One central theme will run throughout: An organism’s behavior has a deep history on two interacting timescales, its individual development, and its evolutionary history. Thus, while an individual’s behavior is a product of its parents’ own histories and lifestyles, as well as actions taken in pre- and post-natal environments, and every developmental process is shaped by evolution.

We will first explore developmental events at the cellular level that are shaped by parental behavior. We will then see how these events influence the developing circuits of the brain. These circuits are, in turn, shaped by patterns of pre- and post-natal behaviors and body morphology. Finally, we will learn about influences at the level of niche or culture, where the changes that adult organisms make to their environments and themselves, ultimately influence and modify the patterns of behaviors exhibited in the next generation.