Phil 3611 Philosophy of Biology

Class Number 1516 Section MW2
M, W 2:15 – 3:30pm 4117B

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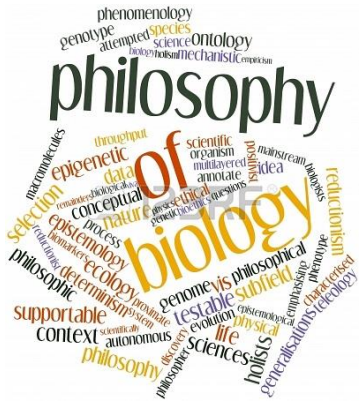
Biologists study the living world and are concerned with understanding life and its processes at many levels: ecosystems, species, organisms, cells, genes and molecules. This course will be an overview of philosophical problems related to biology organized around two primary questions. What is the relation between biology and the other sciences? What philosophical problems have emerged from the greater understanding of the living world that modern biology has given us?

More specifically we will address traditional issues in the philosophy of science such as: what is science? How is scientific understanding different from other kinds of knowledge? This leads us to questions concerning the nature of scientific law and explanation and the relationship between theory and observation. Are the differences that we see between biology and the other natural sciences a feature of a special nature of the subject-matter, or is biology less advanced? We will then spend time looking at issues arising from theory within biology: evolution by natural selection, adaptation, selection, fitness, development, genes, organisms, species, biodiversity, ecosystems, the tree of life, social behavior and game theory. This will include questions such as: does evolutionary theory only apply to living things or can cultures and ideas evolve? Is a human organism just the person, or the person and all of their symbiotic partners (like their gut bacteria)? What are species? How should we measure biodiversity? By what criteria should we compare ecosystems when faced with tough conservation choices (biodiversity, economic value, aesthetic preference, etc.)?

Requirements: quiz, midterm, paper, report, final exam.