1. **Course Title**: Ecological and Evolutionary Physiology  
   a. Credits: 1 credit  
   b. Duration: 1 semester  

2. **Proposed semester**: Fall 2022  

3. There are no requirements for the course. Materials consist of publicly available primary literature.  

4. **Description**: Why do organisms work the way they do? This proposed seminar course will cover physiological processes that underlie ecological and evolutionary patterns and processes. The seminar will meet weekly to discuss primary literature and explore the physiological basis of ecological and evolutionary theory. We will specifically address physiological processes underlying the fundamental and realize niche, operative environments, species distribution modeling, the climate variability hypothesis, speciation, and adaptation. We will focus on physiological processes related to gene expression, protein kinematics, thermoregulation, homeothermy, reaction norms, performance curves, and the role of energy budget analysis.  
   a. **Learning Objectives**: (1) Students will be able to explain how physiological performance drives the non-random distribution of species across space and time, and (2) students will be able to explain how physiological performance influences the process of speciation and adaptation.  
   b. **Teaching format**: I will use guided discussion on primary literature.  
   c. **Assessment**: Students will be assessed based upon participation in discussion.