

Biology

Contract	Term	Course	Contract Title	Contract Description
324013	Fall 2016	BIOL-5118U	Neuroscience Poster Presentation	My neuroscience class will be conducting two experiments in lab that focus on nerve activity recordings of crayfish and earthworms. We will be focusing on how the presence of pharmaceuticals and cosmetics in the environment affects nerve activity. Each individual in the class will complete writing assignments to contribute to sections of the poster including Background, Hypothesis, Methods, Results, and Discussion/Conclusion. I will be responsible for organize the individual sections and designing a poster to be presented at a conference next spring.
324018	Fall 2016	BIOL-3216K	Budding Yeast Analysis	This fall semester in BIOL 3216K, Dr. Brian Schwartz and I have agreed to create an honors contract that seeks to understand the segregation characteristics of budding yeast. The main purpose of this honors contract is to analyze how sequence variations segregate and lead to different phenotypes that are observed within yeast. This observation will be analyzed through techniques such as: mating yeast strains, tetrad dissection, PCR reactions, gel electrophoresis, and DNA preparation for sequencing. It is typical that one segregation pattern is associated with one phenotype. Therefore, the goal of this experiment is to identify how different DNA sequences lead to brown and white phenotypes when placed on different media.
325077	Fall 2016	BIOL-2207K	Identification of Tropical Birds Through Sound	I will be identifying birds on two different islands in the Caribbean while I am on my cruise in October. I will keep a journal of what birds I find, any identifiable markers (i.e. Body color, beak size, beak shape, etc.), record what species they are, and record their calls. I hope to identify a minimum of five different birds per island, and my goal is to identify at least eight per island. When I return, I will put the recorded calls into musical notation.
325085	Fall 2016	BIOL-5118U	Class vs.Clinic: Neurology	This project will entail a real life application of neuroscience. I will shadow a neurologist in order to gain education beyond text. This will allow me to see the clinical aspect of neurology in a real setting in addition to the discussion during lecture. I will also gain insight on conditions, many with unknown causes and undiscovered cures, from a specialist who participates his patients in research trials. Finally, I will write a brief reflection of how class relates to clinic including comparison/contrast of information.

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326086	Fall 2016	BIOL-3216K	Personal Genetic Testing	I am using the company 23 and me to test and analyze my own genes. 23 and me works by extracting DNA from your saliva sample, then making copies and reading the extracted DNA with a genotyping chip. From there they anonymize and group samples together into a set of data which they check for quality and accuracy. Then they prep the raw data for interpretation before calculating your ancestry and generating your reports. Using these reports I will decipher what they mean with the help of Dr. Schwartz and write a reflection paper regarding what the results mean and what I learned about myself along with a little about the process they use.
327089	Fall 2016	BIOL-3216K	Who Am I: A Look at My Genetic Makeup	The project will explore my genetic makeup in order to gain a better understanding of how our genes affect us as a whole. Through the genetic mapping company, 23 and Me, I will receive a full report detailing my genes and what they mean. Upon receiving the report, I will compose a reflective paper on my results detailing what I had expected to find and what the results mean for me.
329081	Fall 2016	BIOL-5246U	Expanded Entomological Collection and Curation	As a component of this entomology course, we are completing collections of various orders, families, and species of insect. the current requirements for the collection are 15 separate orders and 60 separate families, for a total of 100 different insect specimens between those orders and families. As an expansion of this project, I would be collecting an additional 3 insect orders and 10 insect families to create a more comprehensive collection. This collection will better represent the diversity of the subphylum Hexapoda and class Insecta than the minimum required collection. By collecting orders that are not part of the minimum requirements, I am more likely to gather specimens that are not currently part of the collection at CSU collection, thereby increasing the diversity and completeness of the department's collection (specimens will become a part of the collection if they are rare, missing, or have educational value).