

Biology

Contract	Term	Course	Contract Title	Contract Description
335090	Spring 2017	BIOL 3216K	Literature Review on Human Genetic Disease	For my honors contract I would like to research a genetically inherited disease and investigate the current advancements in medicine of this disease. I plan to write a literature review on my findings and present a poster at CSU Tower Day in 2018. I am interested in one of the following diseases: <u>cystic fibrosis, colorblindness, or sickle cell disease.</u>
335091	Spring 2017	BIOL 3216K	The Effect of Hybridization on Red Mulberry Trees	For this contract, I will begin with reading about the issue of a decline in red mulberry trees, in specific sites in Canada, caused by the dominant viability of red-white hybrid mulberry trees. I will also read about DNA barcoding to get acquainted with various concepts in that field. Then, I will isolate and study DNA samples of red, white, and hybrid mulberry <u>trees from Canada to identify the specie type, and the effects of</u>
335085	Spring 2017	BIOL 3217K	Human Demography: Columbus vs Snellville	The project will explore aspects of human demography. I will conduct a study at local cemeteries to collect information on the demographic parameters of males and females. The project will look at the demography of males and females that died during three time intervals: <u>before 1900, 1900-1945 and 1945-present day. The project will compare</u>
335101	Spring 2017	BIOL 3217K	Survey of invasive and non-invasive ant densities of varying proximity to buildings	The student will take surveys of invasive and non-invasive ant densities of varying proximity to buildings around campus. Student will do research on native and non-native ant species of which the surveys will be taken. The surveys will be taken from five plots around campus. Theses surveys will be taken with eight meter x eight meter quadrants two meters from <u>building and ten meters from a building in each plot. Once the data has</u>
335106	Spring 2017	BIOL 5215U	Effectiveness of RNAi gene silencing on different developmental phases of C. elegans	Gene silencing using RNA interference (RNAi) is a method of inducing mutant phenotypes by suppressing messenger RNAs (mRNAs) that are involved in gene expression. There is an innate pathway for regulation of the genome using RNAi in the nematode <i>Caenorhabditis elegans</i> (C. elegans), and it is believed to play an important role in immune response. In class, we are using RNAi to introduce a mutant phenotype to the roundworm. As an extension, I want to determine the developmental stages at which developing C. elegans embryos are the most susceptible to the effects of RNAi. By introducing the various stages of maturing C. <u>elegans to mutant strains of bacteria possessing RNA for uptake and then</u>
336082	Spring 2017	BIOL 5215U	Aging and Senescence	A hallmark of aging is the decreased ability of stem cells and progenitor cells to restore damaged or nonworking tissues. This project aims to better understand why humans age by better understanding the molecular mechanisms involved, such as stem cells, random epigenetic drift, the role of reactive oxygen species and DNA repair enzymes, and