

S3356: Me, Myself, and PIE (Proteins In Everyone) [Splash Fall 2018]

Teacher: Yanitza Rodriguez

Category: Science

Class Description:

Ever wonder why your friends and even family members are either similar or very different from the way you look, act, and/or behave? It all comes down to the DNA. But wait, it doesn't stop here. In this course, you'll dive into deeper depths inside your cells and go beyond this double helix and breakdown those qualities that make up who you are. Through this genetic based course, you'll understand better how everything is connected and come together at the end.

Prerequisites: None.

Duration: 50 minutes.

Grade range: 7-11

Office Hours: Office hours are not only intended to aid students who need further understanding of the topics discussed in class, but also to serve as a time for students to ask any questions in regards to their goals for the upcoming academic years. Office hours also help clarify any doubts in regards to homework and further assistance in understanding how to approach such problems. Students are highly encouraged to ask any question (big or small) from both, previous and future lectures.

Time: (tentative)

*Saturday Sep 29, 9:00-10:15am; 3:35pm-4:30pm

*Saturday Oct 7, 9:00-10:15am; 3:35pm-4:30pm

*Saturday Oct 13, 9:00-10:15am; 3:35pm-4:30pm

What is "Genetics"?

Have you ever thought about why you have blonde hair like your mother or dark eyes like your father? Or have you ever wondered why you and your friend look so different even though you have so much in common? The key to this phenomenon of having similar or different characteristics comes from your parents' genetics. Genetics studies these attributes that are found in genes. People who study genetics study how organisms pass on traits to their offspring and why some traits are passed on more often than others. Genes are the factors responsible in determining how much you look like your family. This is called heritage and genes are the basic

units of hereditary. During this course you will learn where genes originate from. Genes are made up of DNA, which serves to carry information that determines who you are. The intention of this class is to understand what makes you, you!

Here are a sample of the questions we will go through:

- How do you differ from your fellow classmates?
- Where do these traits come from?
- What is DNA? What are proteins?
- How does heritage work?
- What makes you so unique?

Typical Schedule – The three-week learning cycle:

- First Weekend: Intro to your traits. Students take an inventory of their own genetic traits. Working in small groups, they see how their traits differ from those of the other classmates.
- Second Weekend: A recipe for traits. Students create and decode a “DNA recipe” to observe how variations in DNA lead to the inheritance of different traits. You will be creating a DNA helix and learning the steps involved in the formation of it.
- Third Weekend: The Tree of Life. An intro to using computer knowledge to look up certain traits online.
- Assessment: Complete an evaluation to see how much you learned about yourself and this course!

*Don't worry about taking the initiative of asking a question, even if you feel it does not matter, your question could answer doubts from your fellow peers too. Apply your own perceptions and your own thoughts. You, as an active scientist, are an important part of this scientific process.

***Health risks*!!:**

NOTE: During the first lecture I will need to know about any type of allergy, physical limitations, necessary accommodations, translator or communication needs, and any other additional information your parents may believe will be helpful for me to know. During my lecture classes, I introduce a welcoming and safe atmosphere for all and I am also thinking of bringing blueberry pie sometime!