SHINE 2022

The Storyteller's Process: Creative Writing Workshop

Are you a good storyteller? What does it take to tell a good story? What's the difference between telling a story and writing it down? In this course, we will hone your skills as a storyteller, whether you're sharing a personal memory, telling a joke, or crafting an epic adventure. We will learn the tools that good storytellers use to hook an audience's interest, weave together details of plot, character, and setting in an interesting way, and finish off with an ending that leaves people laughing or pondering. The choices storytellers make when crafting their stories become a process, which gives them the opportunity to develop each story into something unique and effective. Modeled as an active, hands-on workshop, this course will help each storyteller develop a process, find a personal writing voice, and produce a sample of work that each feels proud of.

Touring the Solar System: Observational Astronomy

What would you see on a road trip through our solar system? Why do the planets "stay in their lanes", and what are stars like up close? This course will be an observational astronomy course, exploring the objects that exist in our universe. We will learn about planets, moons, comets, and asteroids, and about the fundamental forces that keep them in motion. Then, we will discover the properties of light and waves, and how those properties help us understand things like stars and galaxies - and even how a microwave can teach us something about the history of the universe. And since space is full of strange spectacles, we'll examine unique phenomena like black holes, nebulae, and pulsars. The course will culminate with students designing their own solar system with astronomically appropriate properties!

Digital Photography: Capturing the World

Taking a good photo isn't as simple as point and click. What goes into your frame? What should you leave out? What decisions are made for appropriate lighting? And how do you touch up a photo once you've taken it? Together, we'll explore the history of capturing images, from the camera obscura, the silver-plated daguerreotype and the invention of film to the modern digital camera. Once we reach the present era, we'll learn modern methods and techniques for taking great photos; such as staged tableaus and photomontage. Once you've taken your photos, we'll bring them into the digital darkroom and learn how to edit them, giving them professional finishing touches such as correcting white-balance and lens-warp to end the program with several high-quality photographs to start your portfolio!

***MATERIALS**: $50 lab fee and you will need to bring a laptop to personally use with Darktable installed.*

And, Scene! Building a Character Through the Actor's Lens

Have you ever wondered how actors manage to transform themselves for a role - how they're able to completely change their personalities, movements, and even their voices to fit each new character they play? How does Chris Evans become Captain America, or Julie Andrews become Maria von Trapp? In this course, we'll attempt to break down the tricks of the trade, and let you use them to create characters of your own! We'll discuss the aspects that make up a character, both internal and external. We'll discuss motivation, background, and personality, and how they come together to determine a character's actions. We'll also study the way people (and animals!) move, and how we can make our bodies move in the same ways to convey specific meanings. Finally, we'll put these characters together in scenes, and see how different goals and methods lead to unique interactions, and the beginnings of brand-new stories.

***MATERIALS**: $20 lab fee.*

Do We Live in a Simulation? Questions About What's Real and What's Right

Elon thinks that we are probably all in a simulation - what do you think? Bruce thinks we will be able to transplant brains one day - if so, should we? Jean-Francois thinks self-driving cars should be programmed to always protect their passengers - do you agree? This course considers these and other deep questions people all over the world ask and discuss. We will talk about the implications of new technologies, what we think our world is like, what science is telling us about it, and how we should behave in it. We will experiment with scenarios, investigate what others have thought about these questions, and hold a final debate to discuss each side of an argument. Students will come away with an understanding of how to tackle challenging questions and formulate their own reflections about many of the big questions around technological advancement.

Engineering the Final Frontier: Human Spaceflight

How can humans safely travel to and from space? How do satellites stay in space without ever falling back to Earth even though gravity still pulls on them? In this course, we'll be investigating the engineering behind human spaceflight. We'll dive into the engineering process and look at how we can intelligently design, refine, and build to solve even the most difficult of problems. We will explore how this process has impacted modern technology, from the reusability of the Space Shuttle and its ability to repair satellites in space to SpaceX's new 28-story tall Starship rocket that will be fully reusable, with plans for it to be caught out of the air by the launch tower. We will use this process ourselves to design and create vehicles that can hold air in the vacuum of space, allow payloads to survive falls from great heights, and even protect sensitive materials from the extreme heat of atmospheric reentry! The course will conclude with students using their experience to design and build a scale spacecraft of their own!

***MATERIALS**: $50 lab fee.*