

Course Catalog — *Arts*

A928: Animation 101

Zephyr Farah

Want to know what goes into making your favorite animated shows? Wonder what Black Panther and WALL-E have in common? In this class, we will cover basic techniques of animation, and watch thrilling animated sequences that utilize these techniques. And by the time class is over, you will walk out with your own creation. No drawing experience is required, truly!

Depending on class size, we may work on our animation creations in small groups.

Open to students grades 7 through 12

Sat 10:00am–11:50am

Sat 1:00pm–2:50pm

A912: Foundations of Foundations (Makeup 101)

Jenny Shen

For anyone with an interest in makeup and how to apply it. Use concepts such as color theory and light/dark contrast to fix a wrong foundation shade so that it fits your skin tone!

Open to students grades 7 through 10

Sat 1:00pm–1:50pm

Sat 11:00am–11:50am

Sat 10:00am–10:50am

A905: Jewelry Making

Olivia Nillissen

Start your own stylish trends by learning how to make your own jewelry! In this class, students will have the opportunity to design and make their own wearable jewelry, from friendship bracelets, anklets, to dangly earrings and more!

Open to students grades 7 through 12

Sat 11:00am–11:50am

Sat 10:00am–10:50am

Class is FULL!

A893: K-Pop Dance 101

Charles Huang, Catherine Tsang

Are you a fan of Korean popular music? Have you ever wanted to try to dance like a K-pop idol? In this class, you'll learn a dance routine from popular K-pop songs and be able to impress all your friends! No dance experience required!

Open to students grades 7 through 12

Sat 11:00am–11:50am

Sat 10:00am–10:50am

A877: Perception: Philosophy in Dance

Brianna Rochelle

What do we mean when we say dance is a way of knowing? Join me in exploring the meaning of knowledge and applying it to choreography. Get ready to move your minds and your bodies!

Class setup: Discussion, warm-up, improv, choreography, presentation, wrap up.

Dress comfortably and bring something to take notes (optional).

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

A854: Podcasting 101

Alec Ashforth, Jennifer Young

Have you ever wanted to start your own show, or start a discussion you want people to hear? In Podcasting 101, we will give you the skills you need to get your stories out there! Podcasts are an audio-based medium, which consist of recorded pieces that people can download and listen to. In this course, we will teach you how to create a podcast yourself!

Open to students grades 7 through 12

Sat 10:00am–11:50am

Sat 1:00pm–2:50pm

A867: Step In and Step Out: Stepping 101

Casey Pettiford

Ever seen an awesome step show performed by a high school step team, a fraternity or sorority, or just some of your friends? In addition to other forms of dance, stepping is a unique art form. Based on a long and rich tradition of dance rooted in sounds, words, and movement influenced by African dance and culture, stepping remains an integral part of black and African culture in high schools, college campuses, and around the world. Join this class to learn an awesome three-part step with your classmates and have the opportunity to perform in groups at the end of the class!

Open to students grades 9 through 12

Sat 10:00am–11:50am

A913: From Cursive to Calligraphy

Katrina Montane

If you find yourself wanting to create pretty words in calligraphy but have no idea where to start, this class is for you! Using cursive, you will learn how to write out your favorite quote in faux calligraphy. You could use this skill to make decorations for your room, make birthday cards, start a bullet journal, and much more! Pens and card stock will be provided... just come with your favorite quote picked out!

Open to students grades 9 through 12

Sat 11:00am–11:50am

A855: How to Write Poetry

Aaliyah Davy

Ever wanted to be poet? Learn all the tips and guidelines for making great poetry. Students will engage in writing activities and receive feedback from each other. Get ready to learn

the importance of pace, tone, and formatting.

Open to students grades 7 through 12

Sat 11:00am–11:50am

A921: Bullet Journaling: Organize your life with Color

Zahra Lalee

Bullet Journaling is a really fun method used to organize daily to do list, long term goals, habit tracking, gratefulness logs. I find that this method is really relaxing and the best way to stay organized. Being organized and balanced is a skill will be necessary for all students in middle school, high school, in college, and in life. Bullet journaling is a fun and creative method for doing just that!

Open to students grades 7 through 12

Sat 1:00pm–1:50pm

Class is FULL!

A918: Partner Yoga

Megan Mauro

Take class with a friend and try out partner yoga! Combining traditional yoga poses with a friend let's you enhance your stretch and your fun! Bring a friend and mat if you have them. If not, we can provide both. Wear clothes that are comfortable to move it.

Open to students grades 9 through 12

Sat 1:00pm–1:50pm

A904: Art for the Heart

Katja Gilman

Take a moment out of your day to sit back, relax, and have a little fun. Create anything your heart desires. We will have small group workshops for canvas and watercolor painting. Sign up for a stress-free time and good conversation.

Open to students grades 7 through 12

Sat 2:00pm–2:50pm

Class is FULL!

A909: Chainmail/Wirebending101

Gabriela McDonald

Come learn how to make a couple different weaves of Chainmail and how to make a small wire tree! Weaves include: European 4 in 1, Japanese 8 in 2, Byzantine chain, and Dragon scale.

Students will be able to take their creations home with them

Open to students grades 8 through 12

Sat 2:00pm–2:50pm

A917: Shim Sham

Megan Mauro, Eli Weed

The shim-sham is a line dance that is known all around the world across multiple styles of dance. Come stomp, clap, shake and shimmy alongside a couple members of the Duke Swing club!

Open to students grades 7 through 12

Sat 2:00pm–2:50pm

Course Catalog — *Engineering*

E896: Build Your Own Calculator

Matthew Barbano, Jimmy Shackford

Have you ever wondered how a calculator works? In this class, you will find out and build your own. There will be a short ~10 min debriefing on the basics of digital circuitry, and for the rest of the time, you will build your own Adder circuit using digital electronics components - a breadboard, wires, and Integrated Circuits. This will be a very hands-on class!

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

E910: Intro to Machine Learning

Bob Ding

Wanna build a virtual brain on your computer? Wanna let that brain do the work for you? Wanna let that brain create art? Come to intro to machine learning class, where you starts to know to build a intelligent machine!

Open to students grades 10 through 12

Sat 10:00am–11:50am

E852: Magnetic Resonance Imaging (MRI) Basics

Lauren Heckelman

The development of magnetic resonance imaging (MRI) in 1972 was revolutionary for the medical field. MRI enables doctors to see the inside of your body without exposing you to harmful radiation, unlike x-rays, CTs, etc. In this class, we will learn what makes MRI so unique, as well as the basics

of how images of the body are generated.

Open to students grades 9 through 12

Sat 10:00am–10:50am

E878: eNable: Lend a Hand!

Emily Shannon

Learn about the applications of 3D printing and engineering design in the realm of prosthetic devices. Then, pair up with someone and come up with your own creative, innovative, or crazy design for a unique device. Finally, present your idea and convince the class that yours is the best!

Open to students grades 7 through 12

Sat 10:00am–10:50am

E862: Girls Engineering Change Workshop

Renata Starostka

Learn how to solder a circuit to turn it into a solar powered phone charger that will be donated to those in need!

Open to students grades 7 through 12

Sat 1:00pm–2:50pm

E872: Introduction To Computers

Kunaal Sharma

A basic overview of how computers work. What's inside the box?

Open to students grades 10 through 12

Sat 2:00pm–2:50pm

Course Catalog — *Humanities*

H876: Economics of the NBA

Blake McCann

What are all the numbers that go into the NBA? Yeah we understand that Steph Curry is good at shooting threes, but does that validate a \$201M contract? How do these teams bring in the revenue to pay for such a contract? This course looks into the commodification of these basketball players and how a simple game has turned into a multi-billion dollar business. You will even get the opportunity to discuss the terms of your own NBA contract.

Open to students grades 9 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

H858: Introduction to Korean Culture

Asael Salinas, Christina Shin

Learn about Korean culture - both contemporary and traditional. Learn the Korean alphabet and how to write your name. Jam out to kpop! Sample some Korean snacks and candy! Play a kahoot about Korean culture!

Open to students grades 7 through 10

Sat 10:00am–10:50am

H891: Korean 101

Xiaoyu Cai

Do you like K-pop, K-dramas, or Korean variety shows? Do you wish you could understand them better and be able to talk to people in Korean? Then Korean 101 is the class for you!

We will learn the basic Korean alphabet and common Korean phrases that will help you survive in Korea and get you started in conversing in Korean!

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

H931: Lyricism in Music

Jeremy Liang, Nima Mohammadi

In this course we'll discuss the narratives, innuendos, allegories, and everything literarily beautiful within music today. Explorations of artists in rap/hip-hop, EDM, indie, and country!

Open to students grades 10 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

H907: Reality TV and the Human Condition

Patrick Hong, Reed Margolis

From the Kardashians to Basketball Wives, reality TV has swept pop culture. We'll spend our time sampling a few different shows, analyzing the personalities and what aspects of their subconscious might influence their behavior while being filmed. Moreover, we'll take a look at why the world has

fallen in love with reality TV.

We'll be taking a look at Survivor, Basketball Wives, Kardashians, etc!

Open to students grades 10 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

H923: Reporting 101

Sam Kim

Journalism is massively important to our democracy. We learn about every major event in America Watergate, NSA, #MeToo through journalists. And today, journalism is increasingly at risk.

In this course, we will learn how to report stories and write news. We will explore the different types of a news article, as well as what makes a story easy to read and compelling to readers. We will then hold a mock press conference and practice writing a "lede," or the introduction, for a fictional news event.

We will also discuss the meaning of "Fake News," how the internet has changed newspapers, how to find good news sources and how much, if at all, objectivity matters in journalism.

Open to students grades 8 through 12

Sat 10:00am–11:50am

H889: Supreme Court Cases and You: A Discussion

Alan Zhao

Are you interested in legal precedents??? If you were like me in high school, the answer is probably no. However, when you think about it, these are your rights at stake. What these nine justices have to say (or don't say) can impact everything from your right to protest to gerrymandering to whether a tomato is a vegetable.

In this class, we'll be discussing relevant landmark court decisions and cases on the docket. I hope you join!

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

H881: World War Z: Zombie Politics

Jerry Wang

The next global zombie war is hopefully a ways off. That doesn't mean we can't imagine what would happen if it hit. But zombies are more than just gory, sci-fi fun. What can they tell us about our politics? Our cultures? Our humanity, itself? Part role-play, part sociopolitical analysis, dive into the universe of Max Brooks' famous novel World War Z to discover what the undead can actually tell us about the living.

(No prior knowledge of the book needed!)

Open to students grades 7 through 12

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

H899: #NiUnaMenos to #MeToo: The Cultural Exchange of Women’s and Justice Movements in the Americas

Nicole Lindbergh

From #BlackLivesMatter to #MeToo, the power of the hashtag has been observed in almost all social justice movements. Twitter, for better or for worse, has become a major platform for change in the 21st century for Americans on both continents as sometimes the only place people can converse openly. Both a discussion of the role of social media in the Americas and of modern social movements, this course aims to find the commonality of social justice in the Western Hemisphere in an increasingly globalized world.

Open to students grades 7 through 12

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

H916: An Intensive Introduction to Linguistics

Jaime Trevino

The goal of this class is to give students more direction in their respective paths to language learning. Another goal is to introduce students to the field of linguistics!

Open to students grades 7 through 12

Sat 1:00pm–2:50pm

H932: Introduction to Turkish

Selen Berkman

Learn basics of Turkish, like greetings, common nouns and verbs, and basic sentence structure. We’ll have a break in the middle of the class to eat baklava and listen to Turkish music.

Open to students grades 7 through 12

Sat 1:00pm–2:50pm

H868: Learn to Sign!

Bailey Bogle, Jasmine Leahy, Karan Thadhani

Learn basic American Sign Language with Duke ASL members! We will be teaching beginner signs such as finger spelling, basic phrases and some fun words. Then, we will practice our new sign language skills with fun games!

Open to students grades 7 through 12

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

H908: Systems and Types of Government

Jonathan Chapman, Angus Li

You, good citizen of the United States of America, have learned about the glories of our system of government - Constitution, separation of powers, checks and balances, and all. But did you know that some countries don’t really have these but are prosperous and free anyway? Or that some countries “have” these but aren’t really free either? If you’ve ever wondered why the Prime Minister isn’t called the President or how Louisiana’s legal system is different from the rest of the country’s, this class may be for you!

Open to students grades 9 through 12

Sat 2:00pm–2:50pm

Sat 1:00pm–1:50pm

H929: The History of Hip-Hop

Kevin Huang, Logan Pucci, Nathan Shaul

Hip-hop is the most popular genre of music today, with artists like Drake, Kendrick Lamar, and Kanye West pushing new boundaries with each new song. But how did hip-hop reach such heights? In this class we will explore the roots of hip-hop, from its inception to the the present day.

Open to students grades 7 through 12

Sat 1:00pm–1:50pm

H863: Gender Inequities

Kimberly Calero

Students will be taught about gender inequities related to transgender and gender non-conforming people. We will begin with learning a little bit about gender-related terminology and pronouns, followed by discussion about how trans and gender non-conforming people are negatively affected by systems controlling housing, education, employment, medical care, etc.

Open to students grades 9 through 12

Sat 2:00pm–2:50pm

H926: The History of Black Hair

Lela Owens, Kiamya Philson

This course will explore the historical and cultural significance of African American hair throughout American history.

Open to students grades 7 through 12

Sat 2:00pm–2:50pm

Course Catalog — *Math & Computer Science*

M873: Game Theory In Practice

Madeleine Gagne'

Ever wonder if you can out-think the out-thinkable? Strategy and mathematical modeling has got your back! Check out this Duke Splash course to learn more about how decision science can be used to win popular games, and how strategy can be applied to real-world scenarios. We will be playing a version of the game Mafia and explain the basics of game-theoretic thinking.

Taught by Madeleine Gagne & Barbara Xiong

Open to students grades 7 through 12

Sat 10:00am–10:50am

M883: Learn to Program with Java

Samuel Rabinowitz

Learn how to code in Java! Learn basic programming concepts with instant visual feedback. Then apply what you learned to make an animation or game, with individualized help along the way! We will be using Processing, a Java implementation that simplifies graphics.

No programming experience required! But if you have some, you're welcome to come too to expand your skills.

Bring your laptop. If you can do so beforehand, please download Processing from <https://processing.org/download/>
Open to students grades 7 through 12

Sat 1:00pm–2:50pm

Sat 10:00am–11:50am

M901: Linear Algebra

Joey Li

Linear Algebra is provably one of the hardest subject a person can encounter in college. But in my opinion, it's also one of the most fascinating subjects!

In this class, I will not bother you with the pesky details of linear algebra, you can learn that in college. Instead, I would like to take you on a journey of dynamic systems, we will fly beyond three-dimensional object, and into the realm of n-dimension space!

Open to students grades 10 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

M879: The Art of Problem Solving

Jason Liu, David Wang

Problem-solving is a processan ongoing activity in which we take what we know to discover what we don't know. It involves overcoming obstacles by generating hypotheses, testing those predictions, and arriving at satisfactory solutions. Problem-solving involves three basic functions: Seeking information, Generating new knowledge, and Making decisions.

We plan to show our students how to ask the right questions, and solve problems that they may not at first know how to solve, but with intuition and questioning be able to figure it out.

Open to students grades 8 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

M890: Introduction to Smartphone App Development

Logan Pucci, Nathan Shaul

Have you ever wondered what goes on behind the scenes to create smartphone apps like Instagram, Snapchat, Facebook, or Spotify? In this class, we'll learn some basic Java programming techniques and use them to make a simple Android app. No computer science experience necessary!

Open to students grades 7 through 12

Sat 11:00am–11:50am

M850: Encryption and Cybersecurity

Peter Mikhael, Alejandro Ortega

Encryption and protection of data is of great importance to society - from the medical records of a patient to the confidential information of government and global corporations. In this course, we will explore classical methods of encryption used thousands of years ago and see how we can break them. We will then discuss modern methods of cryptography that form the basis of present-day data protection. Along the way, we will explore interesting properties of prime numbers and how they contribute to modern encryption.

Open to students grades 9 through 12

Sat 1:00pm–2:50pm

M865: How to Find Love (Mathematically)

Rachel Helman

Math is full of applications to life's most basic questions: How does that airplane stay up? How tall is that tree? But it also can be used to answer some of the deepest questions we ask ourselves. This class will cover the basics of optimal stopping theory and its applications to finding The One. If time allows, may also cover applications of game theory to True Love.

Open to students grades 9 through 12

Sat 2:00pm–2:50pm

Sat 1:00pm–1:50pm

M920: Python Turtles

Jon Stanley

Do you enjoy drawing? Are you interested in Computer Science? Well, Turtles in Python is just for you. We'll teach you the basics on how to make computer generated drawings

using the coding language Python!

Open to students grades 9 through 12

Sat 1:00pm–1:50pm

M911: Quick Maths: Secrets of Mental Math and Fermi Estimation

Orgil Batzaya

Do you want to be faster than a calculator? What about being able to accurately estimate the number of jellybeans in

jar? If so, check out Quick Maths and you can impress your friends and family with the power of mathemagic! This class will teach fascinating mental calculation techniques that are useful in all aspects of life, from acing tests/interviews to saving money when planning long trips.

Open to students grades 7 through 12

Sat 2:00pm–2:50pm

Sat 1:00pm–1:50pm

Course Catalog — *Miscellaneous*

X934: CPR and AED: Skills to Save Lives

Kevin Zheng

Did you know that 90% of cardiac arrests happen either at home or at the workplace? Learn from Duke EMS members on how to perform CPR, use AEDs, and save lives.

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

X864: Deconstructing Beauty

Shweta Lodha

This class will be focused on discussing the many commercial and social factors that influence the creation of standards of beauty. By examining the many ways in which standards of beauty vary throughout time and across cultures, we hope to raise awareness amongst students about the degree to which beauty is truly a social construct.

Open to students grades 7 through 12

Sat 10:00am–10:50am

X866: From Glass Slippers to Glass Ceilings

Anna Lee, Tara Vigil

Cleopatra, Beyonce, Serena Williams, Hillary Clinton - what do they all have in common? In today's society we still see too few female leaders, too few strong female icons, too few female scientists and engineers. This class will talk about strong women throughout history, their impact on our generation, and most of all how to become one. Because, who runs the world? Girls!

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

X887: Impromptu Speaking

Tamanna Srivastava

Just some basics on impromptu speaking and fun exercises to help you with public speaking!

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

X925: NBA: The Evolution of the Game

Ahmed Ahad, Erik Zimmer

This course will cover the history of the NBA by going through each major era and examining the game's greatest players. This will be a very discussion-based course and we encourage anyone who is an NBA fan to join; past classes have gone really well!

Open to students grades 7 through 12

Sat 10:00am–10:50am

X884: Nail Art Workshop

Zollie Yavarow

Learn about nail art tools and techniques then put some of them to the test.

Open to students grades 7 through 12

Sat 10:00am–11:50am

Class is FULL!

X894: Public Speaking: How to Feel Like a Superstar on Stage

Ritika Bharati

Do you have any qualms about public speaking? Do you ever feel like no one is listening? Do you ever feel unconfident in what you're saying? If you answered "Yes" to any of the questions above (and even if you didn't) come learn more about public speaking and the art of conveying your thoughts. Class includes mini workshops, speaking exercises, and more!

Open to students grades 9 through 12

Sat 10:00am–11:50am

Sat 1:00pm–2:50pm

X861: Sleight of Hand 101–Close-Up Card Magic

David Chen, Wesley Pritzlaff

Have you ever been intrigued by a seemingly impossible magic trick? Do you want to be able to deceive your friends and family? Do you want to learn an unnecessary, yet highly rewarding talent? If you answered yes... or no, to any of the above questions, then this course is for you! Sleight of Hand 101–Close-Up Card Magic will help you learn the basics of card handling and misdirection. Some of the topics that will be covered include: Deck grip, angles, verbal and physical misdirection, controls, and forces. You will also learn a few tricks as well! A list of resources will also be provided at the end of the course if you are interested in advancing your development as a magician. Decks will be provided for you to practice, but please bring your own if you have one. This course is for both beginners and experienced magicians.

****IF YOU TOOK THIS COURSE IN A PREVIOUS SPLASH SESSION, YOU CAN TAKE IT AGAIN BECAUSE I WILL DEMONSTRATE NEW TRICKS****

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

X900: Something about dragonball z

jason mceachin

Dragonball power scaling

Open to students grades 7 through 12

Sat 10:00am–10:50am

X892: The Start-up Blueprint*Aashna Aggarwal*

A handy toolkit for all start up enthusiasts. Lets learn about strategies and skills for starting your own start-up with hands on exercises and activities. The course will include discussions on the start-up culture, entrepreneurial mindset, how to build a business model, effective task/time management, etc.

*Open to students grades 9 through 12***Sat 10:00am–11:50am****Sat 1:00pm–2:50pm****X848: Competitive Online Pokemon Battling***Joshua Yen*

Do you want to learn how to build Pokemon teams that can win online tournaments? Are you just getting started and want to understand what people mean by win conditions and counters? Sign up for this class and get good at Pokemon!

*Open to students grades 7 through 12***Sat 11:00am–11:50am****X874: Conspiracy Theories and How They Work***Madeleine Gagne'*

Do you love conspiracy theories? Do you want to talk about some of the most prolific mysteries out there? Join this Duke Splash course to learn more about how some of the most popular conspiracy theories came to be and analyze how media, psychology, and political environments combine in a perfect storm to create these wacky ideas!

*Open to students grades 7 through 12***Sat 11:00am–11:50am****X914: How to Juggle***Orgil Batzaya*

Learn to juggle two and three balls.

*Open to students grades 7 through 12***Sat 11:00am–11:50am****X915: How to be a loser***Siddhant Khanna, Jacob Kuntzleman*

Helpful (or precautionary!) advice on how to fail at life from those who know!

*Open to students grades 7 through 9***Sat 11:00am–11:50am****X869: Skin Care 101: Acne, Anti-aging, Managing Dark Spots***Lijia Zhang*

Welcome to Skin Care 101! In this course, you will learn the basics of skin care and what roles your diet and lifestyles play in your skin. Best wishes to get healthy, clear skin!

*Open to students grades 7 through 12***Sat 11:00am–11:50am****Class is FULL!****X875: Brush Calligraphy 101***Michelle Zhu*

Have you ever seen beautifully lettered quotes or phrases in prints or videos? Come learn how to do it yourself or how to fake it until you can make it!

*Open to students grades 9 through 12***Sat 1:00pm–1:50pm****Sat 2:00pm–2:50pm****X935: Drag 101***Neil Rogers*

Intro to Drag Queens and Drag Culture, with demos of nail choice, how to wear wigs, and heel shopping.

*Open to students grades 7 through 12***Sat 1:00pm–1:50pm****Sat 2:00pm–2:50pm****X919: Economics and Culture of Sneaker Collecting***Allen Cao*

Everyone loves sneakers! But do you want to learn more about collecting yeezys, jordans, and other hyped shoes? Come learn about sneaker collecting, reselling, and the market behind sneaker prices and valuations.

*Open to students grades 7 through 12***Sat 1:00pm–1:50pm****Sat 2:00pm–2:50pm****X902: How to Decide Who Lives & Who Dies at the End of the World***Elizabeth Allen*

World war is coming, and a nuclear bomb is about to drop near you. Luckily, you and other similarly paranoid people know about a bunker with supplies that could save you from the nuclear fallout. You all rush there and discover that there are only ten spots. There are rumors of there being a thousand bunkers like this around the world, but you have no idea how many other humans will survive besides your small group.

Who gets to live? How do you decide who gets to live? What makes human lives valuable? What makes life worth living? What do you owe to humanity?

Come explore these questions and many more! You will be given character profiles with limited details about the people who could live or die. Then we will run through various scenarios to see if the group survives or if everyone ends up dying in the end—all based on your choices.

Come prepared to have conversations about difficult judgement calls that you might not agree with.

*Open to students grades 7 through 12***Sat 1:00pm–1:50pm****Sat 2:00pm–2:50pm****X906: self-defense art of Jui-Jitzu***Juan Lasso Velasco*

A class that teaches Jui-Jitzu with a specific focus on self-

defense. Any who are interested in combat or physical activity join in a guided walkthrough of martial art basics.

Open to students grades 8 through 12

Sat 1:00pm–2:50pm

X871: Baking Bread (in a bag!)

Jeffrey Letourneau

Learn about the science of bread while preparing dough that you can bake later at home.

Open to students grades 7 through 12

Sat 2:00pm–2:50pm

Class is FULL!

X859: Female Empowerment

Katherine Gan, Erica Wang

How do we limit ourselves as women? How does the patriarchy limit women's trajectory? How do race and womanhood intersect? Learn the answers to these questions and more in

our class :)

Open to students grades 7 through 12

Sat 2:00pm–2:50pm

X897: How to Be the Most Interesting Kid in the Room

Rob Palmisano

Basic overview of the key steps behind successfully engaging anyone in conversation. This course will teach you how to get conversations started, how to keep them going, and most importantly, how to leave the conversation with the other person wanting more. By improving these skills over the course of your life, you'll open the door to more friendships and opportunities than you can possibly imagine while having lots of fun along the way.

Open to students grades 9 through 12

Sat 2:00pm–2:50pm

Class is FULL!

Course Catalog — *Science*

S898: Cool Chemistry Experiments!

Michelle Wong, Karen Zhao

Do you think chemistry is cool? Have you ever dreamt of being a mad scientist? Now is your chance to shine! We'll be mixing chemicals together (safely, of course) while learning the science behind what makes them react!

(same class as last semester!)

Open to students grades 7 through 10

Sat 11:00am–11:50am

Sat 10:00am–10:50am

Class is FULL!

S903: Environmental Decision-making: Dukes Proposed Combined Heat & Power Plant

Elizabeth Allen

In May 2016, Duke University announced its plans to build a combined heat and power (CHP) plant to meet the energy needs of the university campus and medical center. This plant would initially function using natural gas with future plans to switch to using biogas from hog farm waste. There are many stakeholders who would potentially be affected by this CHP plant both at the university and throughout North Carolina.

This course will introduce relevant background on the potential environmental impacts of this Combined Heat & Power plant before we separate into stakeholder groups and debate whether the plant should be built. This local case study will help students understand the complexity of environmental decisionmaking in a more complete way.

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

S888: The Art of Medicine

Kelsey Graywill

In this class students will synthesize creative and scientific skills by working through a series of modules that explore the biomedical processes that underlie disease - from mental illness to genetic disorders - through artistic depictions. Using The Art Clinic curriculum to learn about and create renditions of different ailments, student artworks will develop unique works that embody the biological principles of illness. In the process students will learn about how we communicate changes in health, explain the process of disease, and represent the reality and experiences of illness.

Open to students grades 9 through 12

Sat 10:00am–11:50am

Sat 1:00pm–2:50pm

S882: The Mutant World

Alex Chang

Mutants from a biological context

Open to students grades 7 through 12

Sat 10:00am–10:50am

S924: Tree Identification

Ashling Zhang

Trees are all around us, and yet we often don't give them a second glance. They contribute beauty and majesty to a landscape. They provide food, shelter, and other resources for countless organisms. They undergo dynamic interactions with their environments and tell stories about the history of the land. Learning to identify trees is not only a way to better understand how different species interact with the environment and with humans, but also to show our appreciation and respect for something so integral to, yet so often overlooked in our daily lives. This course will introduce the fundamentals of tree identification, teach students to identify a few species of trees common to North Carolina, and cover some basics of tree physiology and functionality.

Open to students grades 7 through 12

Sat 10:00am–10:50am

Sat 11:00am–11:50am

Sat 1:00pm–1:50pm

Sat 2:00pm–2:50pm

S930: Environmental problems in Latin America

Temis Coral, Edgar Virguez

Have you ever wondered how the existing environmental problems in Latin America and the Caribbean (LAC) differ from the ones in United States?

In this class we will have an exciting journey visiting Colombian Paramos, Brazilian Amazon jungle and Ecuadorian Galapagos Island, and learning about the environmental challenges they face.

Open to students grades 7 through 12

Sat 11:00am–11:50am

S933: Female Dominance: Lemurs, Meerkats, and More!

Chelsea Southworth

Learn all about the behavior, ecology, and anatomy of nature's most powerful females!

Open to students grades 9 through 12

Sat 11:00am–11:50am

S870: Bacteria, Viruses, and Infectious Disease

Jeffrey Letourneau

In this introduction to microbiology, we will learn some of the basics of microbiology and then apply this by working to diagnose patients in case studies.

If you have a device with internet (smartphone, tablet, laptop), please bring it!

Open to students grades 7 through 12

Sat 1:00pm–1:50pm

S856: Fungal Pathogens and How We Study Them*Aaliyah Davy*

This course is an introduction to fungal pathogens, and some fungal biology. We will start by discussing the basics of microbiology then venture into fungal organisms, and how modern research is being used to understand them more. We will discuss pathogens like *Cryptococcus neoformans*. There will also be a discussion on how doctors approach treatment for fungal infections and why it is difficult to do so. Lastly, we will briefly look at current research methods for studying these microorganisms.

*Open to students grades 8 through 12***Sat 1:00pm–2:50pm****S851: Harry Potter: The Sorting Hat's PhD***Yoonseo Choi*

Wonder how you were sorted into Slytherin instead of Gryffindor? Ever think of how the Sorting Hat can read minds so well? Here, Ted Choi will interpret how the Sorting Hat calculates everyone, and then translate it to everyone at large, American style!

*Open to students grades 7 through 12***Sat 1:00pm–1:50pm****Sat 2:00pm–2:50pm****S885: Introduction to Biological Research***Zollie Yavarow*

This course will be an introduction to some of the techniques used in biological research laboratories. We will discuss how these techniques work on a molecular level and then work together to apply and analyze in an experimental situation. Finally, we will discuss some places to find research opportunities.

*Open to students grades 9 through 12***Sat 1:00pm–1:50pm****S880: Introduction to Quantum Mechanics***Jimmy Shackford, David Wang*

Richard Feynman once said "If you think you understand quantum mechanics, you don't understand quantum mechanics." If you're curious about what makes quantum mechanics so difficult to understand come take this course! :D. We will go over quantum mechanics with some mathematical detail so you can comprehend what makes physicists scratch their heads.

*Open to students grades 9 through 12***Sat 1:00pm–1:50pm****S860: Language Acquisition***Jennifer Ricano*

How do humans learn languages? What happens in our brains when we learn a new language? What benefits are there to being multilingual? We'll discuss all of these questions and more during this class! While the focus will be more on neurolinguistics, we'll also cover basic linguistic and sociological theories.

*Open to students grades 9 through 12***Sat 1:00pm–1:50pm****S886: Lets take a Deep Dive***Tanisha Nalavadi*

Come and learn about the mindblowing marine sea creatures found in the depths of the ocean. We'll take you on a deep dive where you'll get the chance to meet some fascinating animals including Giant Squids and Frilled Sharks.

*Open to students grades 7 through 10***Sat 1:00pm–1:50pm****S922: Pharmacology 101: How Drugs Work and How Doctors Use Them***Harrison Labban, Venezia Leone*

Why does Advil make a headache go away? How does chemotherapy fight cancer? Why do doctors prescribe one drug rather than another?

Pharmacology is "the branch of medicine concerned with uses, effects and modes of actions of drugs." This course will examine basic principles of pharmacology in three incremental steps. First, through the lenses of biochemistry, organic chemistry and molecular biology we will learn what drugs are and how they affect the human body for better or worse (don't worry if this sounds intimidating!). Secondly, and primarily through the lens of modern neuroscience, we will extend that knowledge to discover why some drugs may be more beneficial than others in certain circumstances and how these circumstances make the job of prescribing medications very difficult for doctors (we will also put ourselves into the shoes of practitioners to practice making prescription decisions). Lastly, we will discuss how modern pharmacology's evolution has both revolutionized and harmed our society, and where the world of pharmacology might go from here...

This course will be science-heavy and may introduce topics you've yet to learn about, but it will be a great taste of what college level pre-medical studies look like, and more importantly, will be tons of fun!

*Open to students grades 9 through 12***Sat 1:00pm–1:50pm****Sat 2:00pm–2:50pm****S895: Special Relativity–Understanding the Universal Speed Limit***Jimmy Shackford*

Ever wonder how objects behave at speeds near the speed of light? Want to know how Einstein's findings impacted the field of physics?

In this class, students will be introduced to the ideas behind special relativity. This class will present some of the history, thought experiments, and concepts pertaining to special relativity.

*Open to students grades 7 through 12***Sat 2:00pm–2:50pm**