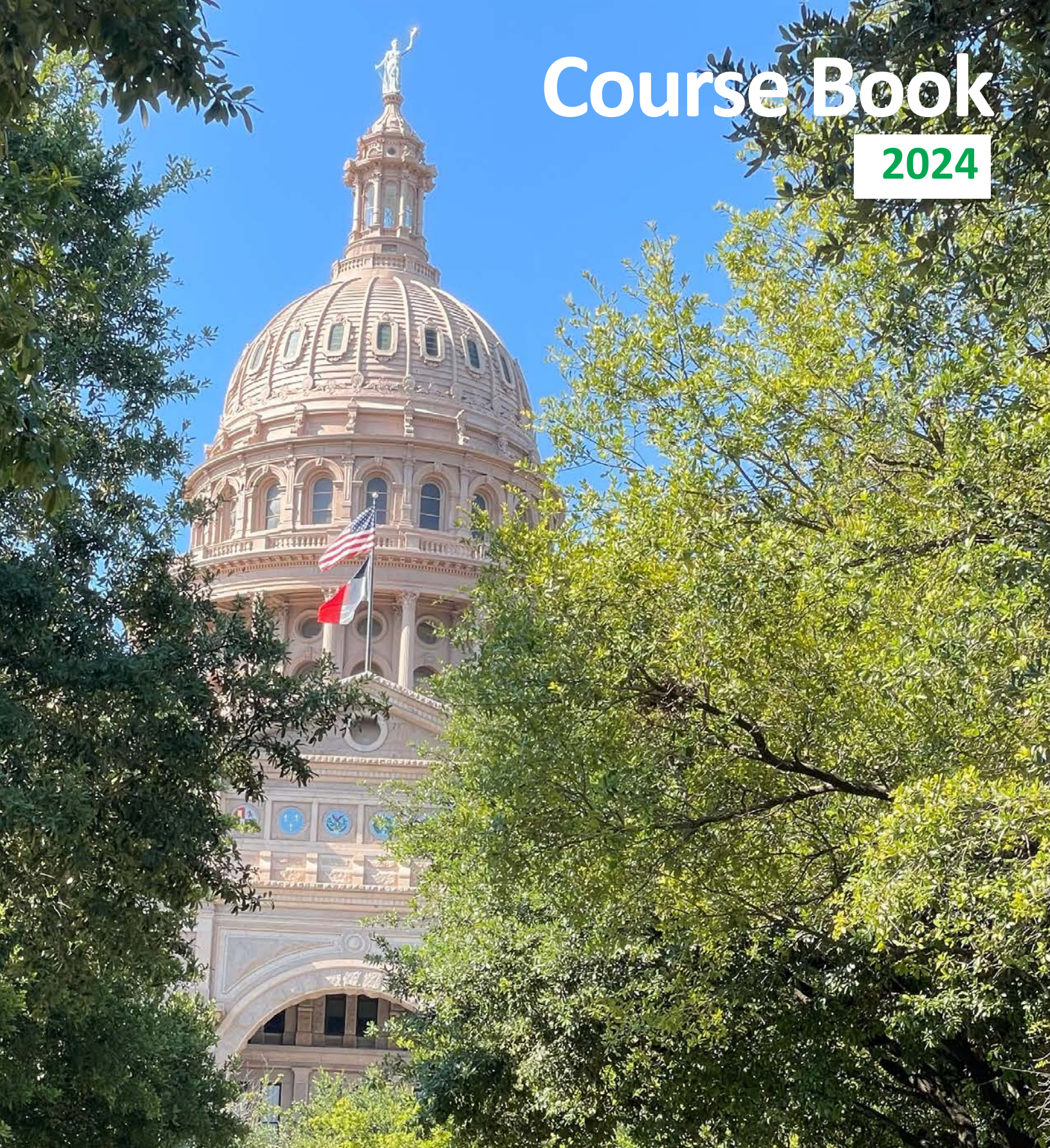


Course Book

2024



UNIVERSITY OF TEXAS, AUSTIN
HIGH SCHOOL PRE-COLLEGE ENRICHMENT

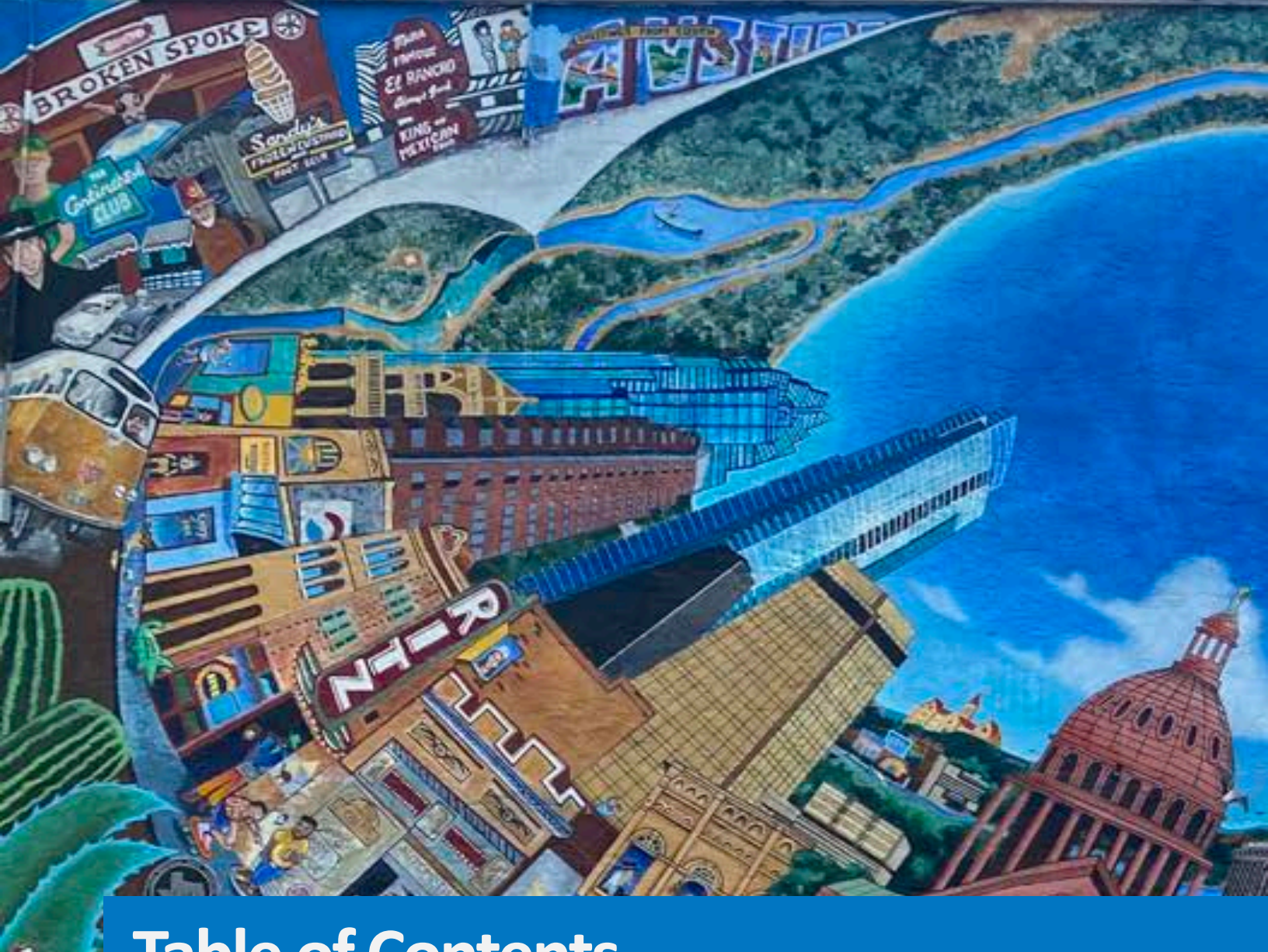


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COURSE TITLE

Business Academy 101: The Keys to Corporate Success

SUBJECT AREA

Business; Entrepreneurship

COURSE DESCRIPTION

Take a deep dive into all things business in this engaging full day academy! Students will enhance their knowledge in business development, marketing, finance, human resources, and management to gain practical and applicable experience in the foundations of every business. Focusing on fundamental concepts ranging from advertising, public relations, and sales to financial management including banking, accounting, and investment, students will learn the foundation of business across all industries. Whether you aspire to become an entrepreneur, want to develop your research and development skills, or have your sights set on the C-suite, this course will equip you with the knowledge and skills to thrive in the corporate world. With hands-on experience, students build practical skills such as problem-solving, teamwork, creative thinking, collaboration, and communication that are key to workforce success. Students will gain valuable knowledge in the building blocks of a successful business while developing practical durable skills they can take with them into any career they choose to pursue. Get ready to climb the corporate ladder! *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.

COURSE TITLE

Digital Business Academy: Business Models & Marketing

SUBJECT AREA

Business; Advertising & Communications

COURSE DESCRIPTION

How can technology be leveraged to help companies create experiences that differentiate and give them a competitive edge over their peers? Almost all advertising is digital today, and you need to understand how it all works, both as a marketer and as a consumer. Digital business is the creation of new designs by blurring the physical and digital world, and it is key for business leaders to understand the ins and outs of digital business and digital marketing to maintain their competitive edge. In this Academy, students will explore the world of digital business through two facets: digital business models and digital marketing. They'll learn about different digital business models and how clear communication is essential to sustain these businesses, examine business plans and develop spreadsheets to analyze different formats of digital content. Students will learn about key digital marketing topics such as SEO, SEM, online ads, and social media marketing, understand how to position a business online, and how to attract customers that take action and buy a product or service. Get first-hand experience and practice creating content in visual and textual formats, writing creative briefs and advertising copy. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session. Students are required to bring a laptop with word-processing and spreadsheet capabilities.

COURSE TITLE

Energy Management & Corporate Sustainability Business Academy

SUBJECT AREA

Business; Finance & Business

COURSE DESCRIPTION

Do you ever get tired of your parents reminding you to turn off the light when you leave the room, or close the outside door when the AC is on to not waste energy? Just like households need to monitor their energy use, so do organizations - businesses must carefully optimize their energy consumption through consistent monitoring and conservative use of energy expenditures like monitoring monthly bills and upgrading to energy-saving appliances. This field is known as Energy Management and is a key consideration in strong business practices. This academy offers a unique learning experience for students to gain interactive experience in this crucial modern industry. The academy provides a comprehensive curriculum that covers topics such as energy conservation, renewable energy, and sustainable business practices. Students will exercise strategies to network with professionals in the energy management and business sectors, giving them valuable insight into potential career paths. Focused on modern and innovative learning techniques, students gain the necessary skills to succeed in today's rapidly evolving energy sector. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.

COURSE TITLE

Fashion Forward: Product Development & Merchandising

SUBJECT AREA

Business; Advertising & Communications

COURSE DESCRIPTION

Come learn about the fashion industry first-hand from a UT fashion instructor and entrepreneur in the apparel industry! Combine your eye for design with an entrepreneurial lens to learn key strategies behind turning fashion ideas into products, including trend analysis, planning (material selection, cost analysis, supply chains), and the buying process. In this hands-on class you'll learn how to analyze trends and identify target markets for successful products, then write and present an original product profile and product development proposal/business plan. Dive deep and think critically to explore current approaches to sustainable outsourcing through real-life case studies of sustainable production. If you dream of being the next big name in the fashion and apparel industry, start building the skills now for your fashion career in planning and merchandising.

COURSE TITLE

Sports & Society: Justice in Action

SUBJECT AREA

Business; Sports Business

COURSE DESCRIPTION

In this dynamic and analytic course, we contemplate the profound influence that sports has on our society, the critical issues before it, and how beloved sports teams and iconic players can leverage their platforms to raise awareness and inspire action. The complex world of sports is fraught with societal challenges, including the historical context of race and gender, violence among players, performance-enhancing substances, recruitment ethics, college sports reform, and more. Students will gain a comprehensive understanding of these controversial issues and consider the ethical implications for the industry, society, and athletes. Led by a top UT Sport Management Instructor, we will explore how sports can become a catalyst for positive social transformation, as students explore solutions and become advocates for social justice.

COURSE TITLE

Sports Management: Off the Field Tactics for On the Field Success

SUBJECT AREA

Business; Sports Business

COURSE DESCRIPTION

The sports industry is undoubtedly one of the most significant industries in the United States, not only because of the billions of dollars that it generates annually but also because of its unique significance in the lives of millions of Americans. The success of sports businesses is heavily reliant on understanding why sports hold such an important place in American society and what drives consumer behavior. This course goes beyond the playbook to examine the off-field strategies that drive on-field excellence in sports. Drawing from game theory and behavioral economics, students will learn the management strategies and decision-making processes that shape sports management and operations. Topics will include best practices, analytics, and psychological factors that influence decision-making. Students will also discover how strategic interactions among teams, leagues, and athletes are used to maximize competitive advantage. Through a combination of lectures, discussions, small-group case study analyses, and video presentations you'll gain a comprehensive understanding of the sports industry and its significance in American society nationally and locally.

COURSE TITLE

Sports Media: Behind the Scenes

SUBJECT AREA

Business; Sports Business

COURSE DESCRIPTION

This course is designed for aspiring sports journalists, broadcasters, media professionals, sports enthusiasts, and anyone interested in understanding the dynamic relationship between sports and the media. How do they collaborate? How do they influence each other? How has their relationship evolved in a digital landscape with emerging technologies, social media, and streaming platforms? What kind of impact will new trends in sports media, virtual reality, and esports have? And maybe most importantly, in a world where increased media coverage = increased star power, does the media have the ability to catapult athletes into legendary icon status? In this course, students will explore these questions while learning the principles of reporting, dynamic storytelling, compelling narratives, play-by-play commentary, and the importance photography plays when iconic moments are captured on film. Being called to task, students will have the opportunity at the end of the course to develop (and pitch) their own compelling story, engaging programming, and/or content ideas to industry professionals. Do you have what it takes? Every play has a story to be told.

COURSE TITLE

From Food Truck to Five Stars: Austin EATS

SUBJECT AREA

Humanities; Food & Cuisine

COURSE DESCRIPTION

Learn about the thriving Austin restaurant industry from multi-faceted local entrepreneur C.K. Chin, owner of Swift's Attic, Wu Chow, Omakase Toshokan, and more. Whether you're interested in becoming America's next Top Chef, or aspiring restaurateur, learn the fundamental skills needed to succeed in this dynamic and creative industry. Topics will include modern restaurant concept design, entrepreneurship, business best practices, basic kitchen skills, social media, and marketing. Students will also explore industry trends like food trucks, pop-ups, collaborations, and ghost kitchens. This course is the foundation for turning culinary visions into reality.

COURSE TITLE

Runway Ready Designs: From Concept to Collection

SUBJECT AREA

Humanities; Fashion

COURSE DESCRIPTION

Welcome to the vibrant world of fashion design. This course is your canvas to unleash your imagination and craft your own unique fashion statement. Students will learn the fundamentals of sketching and garment construction to translate their personal vision onto fabric. Hands-on projects will include designing your own fashion sketches, designing flats, and garment construction with muslin, using draping techniques. Whether you're a budding designer, a fashion enthusiast, or simply curious about the magic behind clothing creation, this course will empower you to turn your ideas into reality. Taught by a UT fashion instructor with their own apparel line. Basic drawing and sewing experience is helpful, but not required. Supplemental Fee: materials/lab fee of \$195 for this course.

COURSE TITLE

The Fit Factor: Fashion Styling & Social Media

SUBJECT AREA

Humanities; Fashion

COURSE DESCRIPTION

Becoming a stylist comes in a variety of forms. Consider a celebrity stylist dressing someone famous for an awards show, or a professional who has honed their craft at beautifully staging homes for a realtor's open house, or maybe a creative director who manages a photo shoot for a bookstore's advertising campaign. What do they all have in common? They all need to have a great eye for design. Do you? With our current digital landscape rich with authentic content, photography (and styling) has become a necessity to elevate personal and professional social media content. This course is designed to help students develop their creative and technical skills, as they refine their own unique design eye. Hands-on exercises will help students learn the basics of fashion styling, including how to create different looks, how to combine different fabrics, materials, textures, and colors, and how to accessorize for an innovative look all your own. Next, students will explore how to promote their unique design by learning the fundamentals of photography including the use of lighting, overall composition, and editing techniques - all of which are required to capture stunning photography that creatively brings your storyboard to life. Armed with the tools to create compelling short-form video content, you'll be ready to try your hand at creating your own original social media content!

COURSE TITLE

The Podcasting Revolution: Finding your Niche

SUBJECT AREA

Humanities; Entertainment & Media

COURSE DESCRIPTION

Are you ready to have your voice heard? Are you full of ideas but lacking an outlet to share them? Welcome to the world of podcasting, a rapidly growing medium with over 450 million listeners and over 5 million podcasts globally. Whether you are an aspiring podcaster, or someone interested in sharing their voice, this course will show you how easy and accessible this medium is. On the technical side, we will explore the latest technologies for recording and manipulating sounds and how easy it is to set up a home recording studio. Students will learn firsthand how to take an inspired idea and turn it into creative audio content. Course topics will include concept development, scripting, storytelling, audio techniques, and compelling interviewing skills. Students will create original narratives and hone their storytelling skills to structure compelling content for a polished and effective podcast that turns your passion into reality. Get ready to hit the airwaves and make your mark in the dynamic world of podcasting! Teacher Bio: Todd Thompson has been a sound engineer for over 30 years and teaching audio production classes at the University of Texas for over 10. He currently runs Dharma Bomb Studios in Austin where he has mixed films for competition at Sundance and The Austin Film Festival, in addition to producing the Aca-media podcast and numerous musical projects.

COURSE TITLE

Criminal Justice Matters: An Introduction

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

What do you consider justice? What constitutes a fair prison sentence? This thought-provoking and interdisciplinary course offers students a comprehensive examination of the American criminal justice system from various perspectives. Students will explore what constitutes a crime, why we punish, and what has changed over time (or not), as we identify different types of criminal behavior, the characteristics of criminal offenders and victims, and the strengths and weaknesses of our criminal justice system. Students will uncover the dynamics between victim and offender, the social/behavioral contexts of certain crimes, and will gain the analytical tools necessary to understand crime, law, and deviance in the U.S. Using basic theories of criminal punishment, students will examine specific procedures of the criminal justice system and learn how city crime rates are measured through police data, self-reported data, and victimization data. Students will leave this course understanding the goals of the criminal justice system and the opportunities that might exist for change and reform.

COURSE TITLE

Democracy in Texas: Lone Star Politics

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

Texas lives up to its Lone Star State moniker in many ways, including in its unique political culture that defies the norms of other states in the union. According to experts, Texas political culture is characterized by strong individualism and a commitment to tradition evident through its low taxes and a historical skepticism towards large government. Additionally, the booming state business industry plays an important role in shaping Texas's political landscape. However, political engagement and voter turnout among average Texans is remarkably low. If its citizens are politically under engaged, does Texas politics reflect the interests of the people that make up its vibrant culture? This class will explore the historical and current circumstances behind Texas' one-of-a-kind politics. Explore research that seeks to understand what makes the Texas political climate so unique, why political engagement continues to remain low, and current efforts to enhance voter turnout. Join us for an in-depth look at state-level politics with a lens on Texas.

COURSE TITLE

Developmental Positive Psychology

SUBJECT AREA

Social Science; Psychology

COURSE DESCRIPTION

Why do some people seem happier than others? What impacts how we feel? What aspects contribute to how we overcome challenges? What makes us who we are? Positive developmental psychology examines how positive factors impact our wellbeing. In this course we will utilize scientific literature to inform our understanding and look behind the scenes of how curiosity is transformed into research that guides our insight into who we are and how we came to be. This course will empower you to better understand the intricacies behind how positive factors contribute to human development over the life course and how you can harness the theories of developmental positive psychology to enhance your life.

COURSE TITLE

Foundations of Psychology: Mind Over Matter

SUBJECT AREA

Social Science; Psychology

COURSE DESCRIPTION

Welcome to the intricate workings of the human mind! Prepare to delve into the depths of cognition, behavior, and the fascinating world of psychological science. In this course, we start to explore various aspects that both explain and impact the human experience. We will gain an understanding of ways people function socially, cognitively and emotionally. From understanding the human psyche and classical psychological theories, to the mind-body connection and real-world application, we will examine how psychological principles and recent research findings aim to explain our reality. Develop critical thinking skills as we test theories and conduct classroom experiments to gain a deeper understanding of the human mind and how it functions to affect behavior. Whether you're interested in pursuing a career in psychology or simply want to learn more about this fascinating field, this course is a fantastic place to start.

COURSE TITLE

Law & Order: Decoding Justice

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

This class is an introduction into the American legal system, the power of justice, and the importance of the rule of law. From learning basic procedures of civil and criminal courts, to decoding the Constitution, this course explores the roles and challenges faced by courts, law enforcement officials, victims, and offenders in the pursuit of justice. Through interactive discussions on key Constitutional issues, students will improve their legal vocabulary and learn to read cases as they identify key legal issues and make cogent legal arguments. Taught by a practicing attorney, this thought-provoking course offers students a deeper understanding of the powerful ways the criminal justice system defines our legal landscape and shapes our lives.

COURSE TITLE

Mock Trial: Order in the Court

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

This interactive course gives students an inside view of trial law from a courtroom perspective. With this introductory course, students will learn the different viewpoints of various players and the roles they play in a trial, including attorneys, defendants, witnesses, judges, and jurors. Explore the fundamentals of trial law and what goes into preparing and presenting arguments on hypothetical legal cases. Develop key critical thinking, problem-solving, and public speaking skills crucial to success in the courtroom (and life!). Students will explore tips and techniques for persuasive opening statements, jury selection, witness testimony and cross-examination, common objections, and closing arguments. Guided by a practicing criminal law attorney, students will engage in hands-on exercises, small group activities, and ultimately conduct a mock trial to apply their newly acquired skills. Get your gavel ready, we've got a court date!



COURSE TITLE

Political Economy: Money, Power, & Politics

SUBJECT AREA

Social Science; Economics

COURSE DESCRIPTION

This essential course helps to broaden students' understanding of the relationship between government, law, and the economy. The national and global economies are intricately linked to the political process, evident most recently through the economic fluctuations the United States has experienced through administrative transitions and the COVID pandemic. In this class, students will analyze how political and economic institutions interact to shape public policies, and how these policies impact the economy and society at large. Students will be provided with the necessary tools to think critically and engage with topics such as voter behavior, the impact of money in politics, the role of the media in shaping public opinion, and the workings of the electoral college. Students will learn how the law impacts their everyday lives, as well as how it affects future generations. They will gain a deeper understanding of how economic systems work, including the role of businesses, markets, and government policies in shaping economic outcomes. Students will be equipped with the necessary analytical skills to participate actively and engage in the democratic process for the benefit of their very near future.

COURSE TITLE

The Power of the Algorithm: Social Media & Elections

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

In today's digital age, social media platforms have become an integral part of our daily lives. These platforms have revolutionized the way we communicate, share information, and interact with each other online. However, social media algorithms have also been a topic of concern, particularly when it comes to their impact on elections. In the early days of social media, algorithms helped companies target their message to the right audience, with the intent of selling products or services. Over time, algorithms and how they are used has evolved. These algorithms are designed to show users content they are most likely to engage with. So, the more a user interacts with a particular type of content, the more of that type of content they will see, creating an "echo chamber" effect where users are only exposed to content that reinforces their existing beliefs and opinions. While social media algorithms can have powerful impacts in many ways, they have become particularly problematic in terms of politics, public elections, the media messages we consume, and the spread of misinformation and polarizing content. By being aware of how algorithms can influence the information they see, students can take steps to become more informed and engaged citizens. Students learn how to seek out diverse sources of information, perspectives, and to be mindful of their own online behavior to engage with a variety of viewpoints and sources. By understanding how algorithms work and taking steps to seek out diverse sources of information, students can become informed and engaged citizens who are better equipped to participate in the democratic process.



COURSE TITLE

Biomedical Engineering Academy: Innovations in Healthcare Technology

SUBJECT AREA

STEAM; Engineering

COURSE DESCRIPTION

Biomedical engineering is an exciting field that combines principles of engineering, biology, and medicine to create innovative solutions for healthcare. This academy provides students with an in-depth understanding of the field through a combination of classroom instruction and hands-on projects. Explore key concepts in biomedical engineering including biomedical imaging and instrumentation, cellular and biomolecular engineering, computational biomedical engineering, and molecular, cellular and tissue biomechanics. Students gain experience using biomedical engineering to identify solutions for modern real-world problems, such as designing and building prosthetic limbs and creating artificial organs. Students practice with hands-on workshops dissecting animal organs and building models of essential human organs. By gaining hands-on experience and learning from experts in the field, you'll be well-equipped to pursue a degree in biomedical engineering and harness the latest frontiers in technology. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.

COURSE TITLE

Careers in Healthcare: Pre-Pharmacy Academy

SUBJECT AREA

STEAM; Medicine

COURSE DESCRIPTION

Are you fascinated by the world of medication, health, and patient care? Do you envision yourself as a future pharmacist? This Academy provides a comprehensive introduction into the foundations of pharmacy and the vital role that pharmacists fulfill in enhancing patient health and well-being. Course topics include reviewing key roles & responsibilities of a pharmacist, pharmacology basics, the science of drugs, their mechanisms of action, and how they interact with the human body, patient care skills, ethics and regulations, and proper medication management. Taught by experienced industry professionals, students will engage in hands-on activities including compounding medications, filling prescriptions, and counseling patients on medication use. Students will learn common medical terminology, how to correctly read and interpret drug orders, and understand the importance of quality assurance. Join this academy and get a head start to decide if a career in pharmacy is right for you. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.

COURSE TITLE

Careers in Healthcare: Pre-Veterinary Academy

SUBJECT AREA

STEAM; Medicine

COURSE DESCRIPTION

Do you love animals? Do you dream of becoming a veterinarian one day? The field of veterinary medicine is a highly specialized and incredibly rewarding career path that requires a great deal of education and training. For high school students interested in pursuing this profession, this academy is designed to provide a comprehensive understanding of the field of veterinary medicine, as well as the skills and knowledge needed to succeed as a veterinarian. Students will learn about animal anatomy and physiology, diagnostic techniques, surgical procedures, and much more. In addition to these core skills, this academy builds in time to develop soft skills essential to any healthcare profession such as communication, teamwork, and problem-solving. Students learn and practice the crucial skill of effective communication with both animals and their owners. With a strong educational foundation and the right training, students can go on to become skilled and compassionate veterinarians who make a real difference in the lives of animals and their owners. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.



COURSE TITLE

Careers in Medicine Academy

SUBJECT AREA

STEAM; Medicine

COURSE DESCRIPTION

So, you want to be a doctor? Or a nurse? What about a hospital administrator? Discover whether medicine is for you. This rewarding and challenging program provides a rare opportunity for high school students to get a taste of medical school and learn via hands-on, problem-based learning with dissections and simulations. Move beyond Grey's Anatomy, House, and ER. Get a taste of medicine as you learn about common medical conditions via cases and acquire hands-on skills such as suturing, biopsying, and checking vitals. Understand the paths to different specialties and the necessary steps it will take to cross the finish line (and potentially get those special letters after your name). Diagnose common illnesses and injuries and dive into major organ systems with MRI, CT, and ultrasounds in this case-based class. Students will also gain CPR/AED & first aid certification during this course. See if you have what it takes to succeed. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session. Students must have completed high school biology with an A/B letter grade. Supplemental Fee: materials/lab fee of \$695.

COURSE TITLE

Earth, Life, & Matter: A Natural Sciences Academy

SUBJECT AREA

STEAM; Natural Science

COURSE DESCRIPTION

Join us as we unravel the mysteries of the natural world and ignite your passion for scientific exploration. Whether you're passionate about understanding the environment, curious about the intricacies of life, or intrigued by the laws of the physical universe, a natural sciences course is an excellent way for high school students to embrace and explore the world around them. This Academy explores the fundamental principles of biology, chemistry, physics, and earth science, providing students with a broad understanding of the natural world. Hands-on, interactive experiments are incorporated to connect the global concepts and apply the findings through real-world experiences. To gain a deeper understanding, we incorporate technology, such as virtual reality simulations and active research, to explore complex topics in a more immersive way. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.



COURSE TITLE

Engineering Academy: Innovation & Design

SUBJECT AREA

STEAM; Engineering

COURSE DESCRIPTION

This Academy offers budding engineers an opportunity to unleash their curiosity and dive into the exciting world of engineering through hands-on, interactive, and engaging coursework. Based on the first-year undergraduate Design Methodology and Engineering courses, students will work in small teams to design a product from concept to prototyping. The academy is designed to demonstrate the importance of teamwork and planning in successfully completing large, complex, time-constrained projects and introduce the application of physical and mathematical principles in solving practical engineering problems. Students will enhance their knowledge base of material properties, structures, and manufacturing processes and enhance their creativity and build confidence in their ability to handle challenging assignments. The class will present steps to bring a product from concept to functional prototype: defining specs, developing concepts through research and ideation methods, modeling performance, developing working drawings, selecting materials, and constructing, testing, and revising a working prototype. Students will leave this course with a practical understanding of the challenges as well as the opportunities facing the modern-day engineer to create cutting-edge, innovative solutions for a rewarding career. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session. Students must have completed Trigonometry and one lab science course with an A/B letter grade. Supplemental Fee: materials/lab fee of \$295.

COURSE TITLE

Forensic Science: Cracking the Code

SUBJECT AREA

STEAM; Forensics

COURSE DESCRIPTION

Whether you find yourself captivated by the intricate world of crime scenes, eager to unravel the path from evidence to justice, or you're simply fascinated by the actors who bring it to life on TV, this program invites students to embark on a scientific journey into the realm of forensics. Explore the techniques, tools, and methodologies employed by seasoned forensics scientists to solve crimes. With an emphasis on DNA and fingerprinting, students will engage in hands-on laboratory exercises to learn about the technology, equipment, and forensic skills needed to analyze and interpret physical evidence. Join Texas crime lab forensics scientists on this incredible journey into the core scientific principles of forensics and major areas in the field. Supplemental Fee: materials/lab fee of \$195 for this course.

COURSE TITLE

Microbiology: The Invisible World

SUBJECT AREA

STEAM; Biological Science

COURSE DESCRIPTION

Have you ever wondered why there are so many different types of antibiotics? Take a dive into the world of microbiology and discover how researchers and clinicians' study, manipulate, and communicate with a world too small for the naked eye to see. Microbiology is the study of microorganisms, including bacteria, viruses, fungi, and parasites, all of which can cause diseases in humans. Analyze how microorganisms cause common diseases and their symptoms, and how diseases are transmitted. Discover the history and development of vaccines, antibiotics, and antibiotic-resistant bacteria and how they have impacted the transmission of disease. Expand your understanding with the use of case studies and real-world examples to inform research on cutting-edge topics and breakthroughs in microbiology research. This hands-on course is taught by a renowned microbiology instructor and award-winning Medical Illustrator. There will be a materials/lab fee of \$95 for this course.



COURSE TITLE

Neuroscience: Unlocking the Brain's Secrets

SUBJECT AREA

STEAM; Biological Science

COURSE DESCRIPTION

Learn about how various neural diseases are detected and treated while taking an in-depth look at one of our most complex organs; the brain. We will unravel the mysteries of the brain by decoding its unique language, navigating the intricacies of thought, and understanding the signals that power our every move. Neuroscience is a rapidly expanding integrative discipline that explores solutions to some of the most critical questions in healthcare and science. From anatomical structure in virtual reality to tapping into how bioengineered viruses could possibly be a cure for cancer, you will marvel at your brain's complexity and adaptability. In this class you'll observe key anatomical features of the brain and analyze the behavior of cells and circuits that impact how we remember, learn, see, and speak. Examine how damage to these structures can lead to trauma, neurodegenerative disease, and deficits. This fascinating course is taught by UT neurobiology alum along with neurophysiologists, neuropsychologists, and neurosurgeons.

COURSE TITLE

Python Programming Academy

SUBJECT AREA

STEAM; Computer Science & Technology

COURSE DESCRIPTION

Get ready to dive into the world of coding and discover the programming language of scientists and engineers! Introducing Python, the most versatile and widely used programming language in the world. Learn the fundamentals of Python and its real-life applications, from coding websites and games to navigating large data sets and machine learning. Learn object-oriented programming used by large and small software companies to more easily modify, reuse, and maintain code. Learn Objects and Classes, Methods, Encapsulation, Abstraction, Polymorphism, and Inheritance, and write complete programs in Python. At the end of this course, students will have learned the syntax and concepts of Python that will enable them to write Python programs for a wide range of applications. Taught by UT CS instructors and experienced IT professionals & developers. *Academy Courses are full day courses. If selected, students will attend a morning and afternoon session. This Academy is intended for students with basic programming experience in C++, Java, or Python. Students must have completed Algebra II with at least a B letter grade.

COURSE TITLE

Sports Medicine: Diagnosis & Prevention

SUBJECT AREA

STEAM; Medicine

COURSE DESCRIPTION

Taught by award-winning UT Athletic Training Instructors, this foundational course provides students with essential skills in the field of sports medicine. Designed for those interested in athletic healthcare, this class covers the principles of injury assessment and diagnosis. Learn how to clinically evaluate common athletic injuries and make proper treatment recommendations (triage, first aid, immobilization, etc.). Additionally, the course emphasizes athlete wellbeing and preventative measures including conditioning, nutrition, and exercise to optimize athlete performance and reduce the risk of injury.

COURSE TITLE

Sports Medicine: Rehabilitation

SUBJECT AREA

STEAM; Medicine

COURSE DESCRIPTION

Learn how to effectively aid athletes in their post-injury recovery journey. Explore treatments, exercises, and rehabilitation techniques to incorporate into a therapeutic program for common upper and lower-body sports-related injuries, including sprains, strains, tendinopathies, etc. Course topics will include therapeutic modalities (electrical muscle stimulations), mobility techniques to enhance flexibility and range of motion, personalized exercise protocols, and the importance of functional progression to safely return athletes to their pre-injury state. Taught by award-winning UT Athletic Training Instructors.