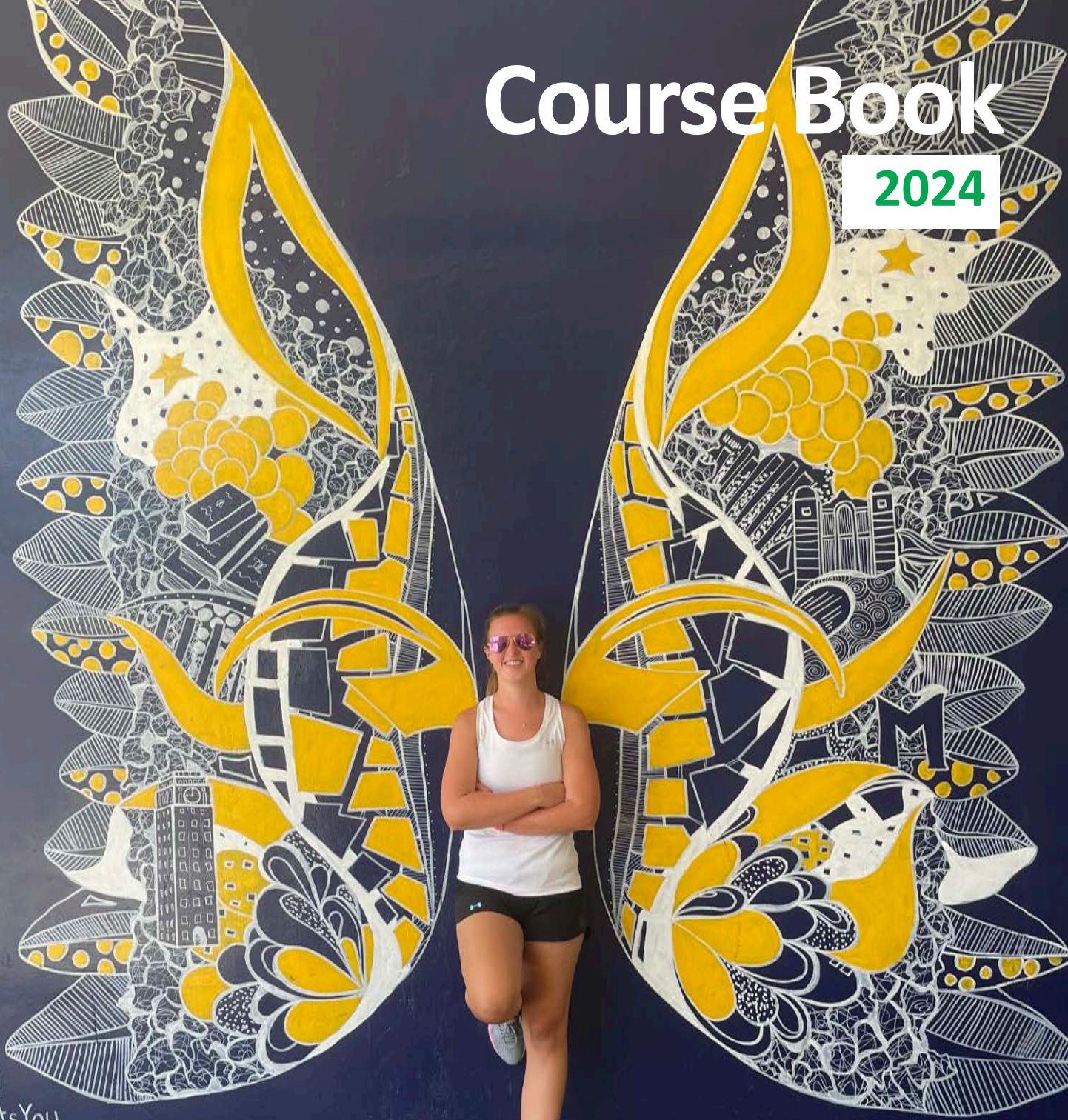


Course Book

2024



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UNIVERSITY OF MICHIGAN
HIGH SCHOOL PRE-COLLEGE ENRICHMENT

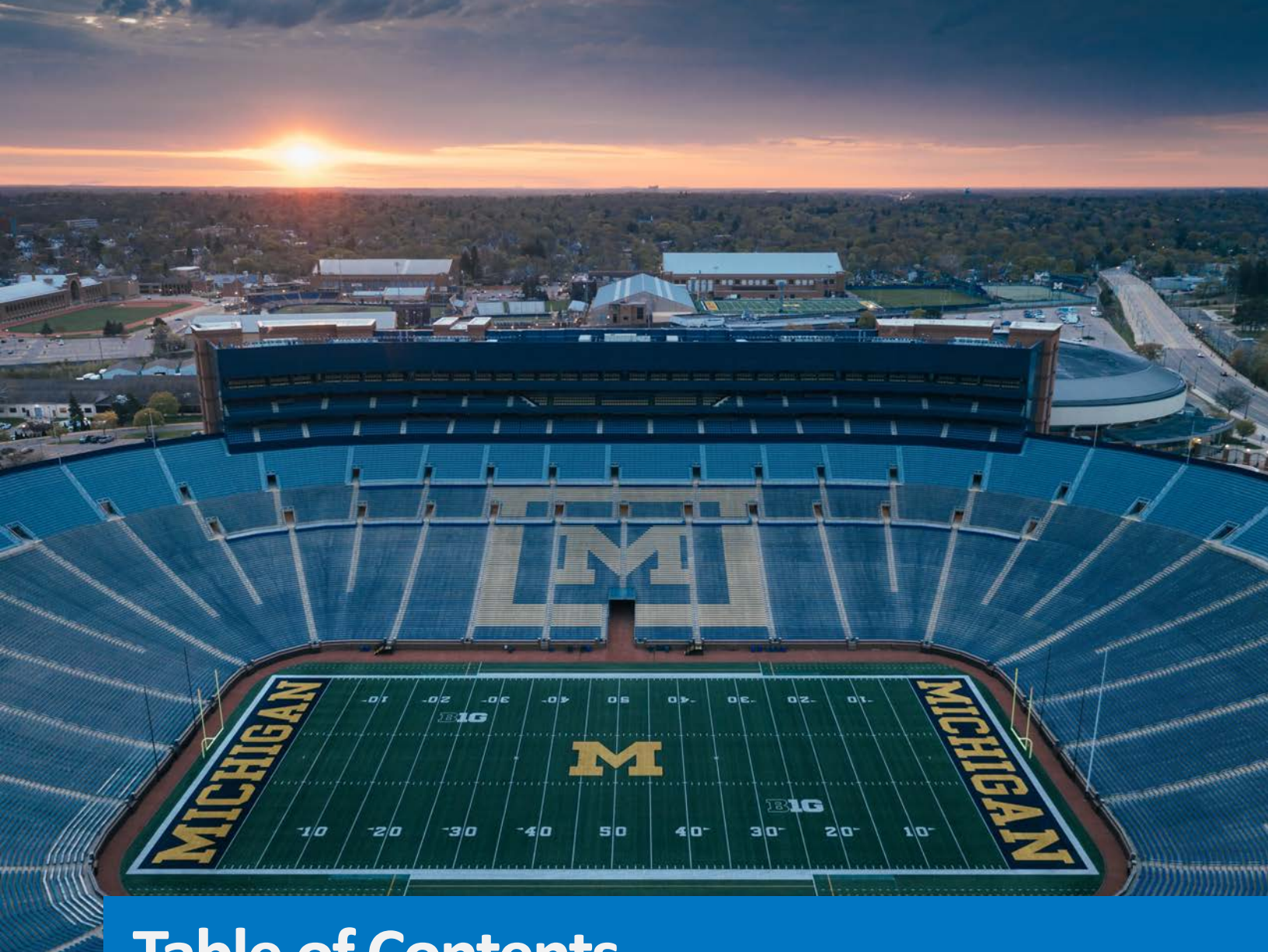


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For more information on our programs, visit www.summerdiscovery.com

COURSE TITLE

Advertising: A Cultural Perspective

SUBJECT AREA

Business; Advertising & Communications

COURSE DESCRIPTION

Explore the profound impact of advertising on our culture and its influence on public opinion and consumer behavior. Dive into the world of iconic brands that use their platform to address significant social issues. Uncover the successful tactics that enable advertising to resonate and engage a wider audience. During this course, students will participate in discussions about their favorite brands, memorable advertising campaigns and iconic brands that have responded to social messaging. Through real-world case studies, you will discover that the essence of effective advertising lies in its ability to forge lasting and emotional connections with the audience. Explore noteworthy social campaigns, including Dove (promoting inclusive and positive body images for women), Gillette (taking a stand against toxic masculinity), Patagonia (advocating environmental activism), and Nike (addressing racial injustice and inequality) with a campaign that even earned a retweet from rival Adidas. Gain insights into the keys to effective advertising and positioning, leverage market research and segmentation, and learn how to measure success as you prepare your own campaign for a local business (or non-profit) in the Ann Arbor community.

COURSE TITLE

Business Disruptors: Level Up

SUBJECT AREA

Business; Entrepreneurship

COURSE DESCRIPTION

In this course, we will delve into the ways in which innovative companies have transformed the business landscape. A business disruptor (also known as “disruptive innovators”) refers to a company that introduces a new product, service, technology, or business model that significantly revolutionizes an existing market or industry. We will examine the business models of some of the largest modern day disruptors including Amazon, Google/Alphabet, Facebook/Meta, Microsoft, Netflix, Uber, and Airbnb. Together, we will explore how their innovative strategies have literally changed the world and influenced the way we think, behave, and approach certain ideas, items, products, and services. Through this course, you will gain a comprehensive understanding of the nature of disruption happening across industries, and how to apply these same techniques in your own business ventures. As part of the final project, you will work in groups to create your own disruptive business, utilizing the framework and skills developed throughout the course. By the end of this course, you will have a deep appreciation for innovation, entrepreneurship, and the potential to lead the next generation of business disruptors. Join us on this exciting journey and discover how to make your mark in the world of business!

COURSE TITLE

Communicating in a Social Media World #trending

SUBJECT AREA

Business; Advertising & Communications

COURSE DESCRIPTION

In today’s digital landscape, social media has revolutionized how we connect, communicate, and influence. It has also created new opportunities for today’s entrepreneurs. Whether you aspire to become the next TikTok sensation, an iconic “mega” brand influencer, or you’re looking to harness the power of social media to grow your business – this course will help you navigate this ever-changing realm. In this course, we will explore the foundations of communications technology to understand the various social media platforms, their unique features, and their role in modern communication. Students will learn how to leverage segmentation, targeting, positioning, branding, and market research to conceive and design effective social media campaigns that will captivate audiences, foster engagement, and build a dedicated following. We will also explore real life case studies, where businesses have effectively (and successfully) leveraged social media to build their business – and discover entrepreneurs that have found ways to build profitable enterprises around a wide range of activities – including some that might surprise you, like product unboxing, playing with toys, mixing slime, ASMR, posting food pics, and so much more. #signmeup

COURSE TITLE

Insider's Guide to Personal Finance, Business and Money Management

SUBJECT AREA

Business; Business & Finance

COURSE DESCRIPTION

Investing is a crucial part of personal finance and entrepreneurship, and it's never too early to start learning about it! In fact, the sooner you learn about compounded interest, the better off you'll be. This class is designed to provide students with an introduction to the world of investing so they can take control of their finances and make their money work for them. Throughout the course, they will cover the basics of investing and saving, including stocks and bonds, and will explore credit and investment. Examine models to show where you can end up if you start investing at age 20 vs. 25 vs. 30 - the difference is huge! Additionally, the class will discuss the difference between the NYSE and the NASDAQ, and how to deal with interest rates in an easy-to-understand way. Students will also have the opportunity to learn about how corporations and businesses manage their capital through topics like corporate financial analysis, financial planning procedures, and commodities trading. They will even get to invest some imaginary money to discover their risk tolerance level in a stress-free way. By taking this class, students will learn valuable skills that will help them make informed decisions about their financial future to build confidence in their ability to navigate the world of investing and their personal finance and entrepreneurship goals.

COURSE TITLE

Perfect your Pitch: Business and Entrepreneurship - Academy with NFTE

SUBJECT AREA

Business; Entrepreneurship

COURSE DESCRIPTION

This program will help you take your entrepreneurial potential to the next level and activate your business mindset to set you up as a successful leader and entrepreneur. You will be guided through an award-winning curriculum by the Network for Teaching and Entrepreneurship (NFTE) on the fundamentals of entrepreneurship, coached along the way by a NFTE-certified instructor. You will use a lean business model canvas to create an original business idea, write a business plan, and pitch your business to veteran entrepreneurs. Industry speakers will bring their real-world business experience to the classroom and share practical insights and success stories. Students prepare and present their final pitch for competition and local recognition in the business community.

*Academy Courses are full day courses. If selected, students will attend a morning and afternoon session.



COURSE TITLE

Sport Management: Issues and Strategies in Sport Management

SUBJECT AREA

Business; Sports Business

COURSE DESCRIPTION

Arguably, sports is one of the most significant industries in the United States, not only because of the billions of dollars that it generates annually, but because of the breadth and depth of its importance in the lives of millions of Americans, as spectators and participants. Consequently, in order to generate revenue effectively and efficiently, successful leaders in sports business must understand how and why sports are such an important piece of the fabric of our society. This course will introduce issues and strategies relevant to the industry (in the United States), covering a variety of topics including sport-related marketing and consumer behavior as well as past, current and future issues regarding intercollegiate athletics in the United States. Instructor Spotlight: Dr. Basten's research has appeared in journals such as the Review of Higher Education and the Personality and Social Psychology Bulletin. He has taught at the UM School of Kinesiology for over 20 years and is one of Summer Discovery's most highly-rated instructors!

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 how they impact the industry, society, and athletes. Through interactive discussions, 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

Art Atelier: Painting & Drawing Studio

SUBJECT AREA

Humanities; Art & Design

COURSE DESCRIPTION

An atelier is a workshop where a community of artists create collectively. If you're interested in exploring your creative side, the Painting and Drawing Studio provides an exploratory space for seasoned and budding artists alike to experiment with different visual art mediums. You'll learn about the basic techniques of different areas of studio art such as painting and drawing, printmaking, sculpture, and photography. With guided instruction and creative exploration with peers you'll play with your conceptual ideas to develop your own unique form of aesthetic and personal expression. Whether you are an experienced artist or want to expand your visual creativity skills, this class will provide a supportive space to explore your eye for design.

COURSE TITLE

Calling All Foodies: Ann Arbor Cuisine

SUBJECT AREA

Humanities; Food & Cuisine

COURSE DESCRIPTION

A small city with a rich and diverse culinary landscape all its own, Ann Arbor is praised for its unique food culture. Explore local flavors on this educational food tour as we eat our way through Ann Arbor visiting new and established local restaurants, Kerrytown Market, Ann Arbor Farmers Market, award-winning Zingerman's Roadhouse®, and a variety of food trucks. You'll explore how the city's history, culture, and diverse population has shaped the local food landscape while sampling the local and international fare that makes this city one of a kind. With Ann Arbor as the backdrop, you'll also discover how 'Food' posted on social media has become an industry where foodies can share their passion through social media platforms, blogs, and photography. Cuisines may include Italian, French, Japanese, Korean, Indian, Cuban, BBQ, Tapas, and more. Come hungry!

COURSE TITLE

Master Your Message: College Essay Writing Workshop

SUBJECT AREA

Humanities; Writing

COURSE DESCRIPTION

Nurture your unique voice and articulate your thoughts with clarity and precision to write a top-notch essay for your college application. This course is designed to equip students with the tools needed to elevate their writing to be persuasive, informative, and impactful to stand out among the crowd. Through a blend of guided instruction, hands-on exercises, and personalized feedback, students will tap into their creative and critical thinking skills to craft standout personal statements and polished essays. You will explore the basics of essay construction, composition, editing, grammar, spelling, and punctuation and learn what makes a compelling college application essay topic. With this foundation you will develop an engaging personal narrative and refine your writing to persuasively showcase your unique experiences, talents, and aspirations. This workshop will focus on preparing you to write college application essays, but more importantly, you'll leave the program armed with the tools, techniques, and confidence essential for successful writing in college and the future. Note: Students must have a proficiency in English as this class is not intended as a study or practice of the English language.



COURSE TITLE

A Psychology Thriller: Inside the Criminal Mind

SUBJECT AREA

Social Science; Psychology

COURSE DESCRIPTION

Do you love watching crime shows and listening to the latest whodunnit podcasts? Criminal Psychology will let you in on the inner workings of the criminal mind to understand what drives some people to commit crimes and how our criminal justice system handles acts of crime. This course will examine the different theories of criminal behavior: psychodynamic, biological, genetic, social learning, behavioral, cognition, developmental and cultural issues in criminal behavior, sociological theories, violence and aggression, sex offenses, and the role of substance abuse. Through case studies of some of the most famous criminals, you'll explore how these theories apply to real-life criminal behavior. This class will also explore how law enforcement uses profiling techniques to help identify and capture individuals who have broken the law.

COURSE TITLE

American Government: Becoming an Engaged Citizen

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

In this course, we will delve into the intricacies of modern American government and current domestic and foreign issues. Students will gain a better understanding of what is happening now in the political landscape, what is making today's headlines to impact our civil liberties and their effect on you, to set you on the path to active democratic citizenship. Using a historical lens, we'll engage in active discussion to explore and analyze major political, social, and military events that have shaped American society over the years. We will also examine significant themes in economics, religion, foreign policy, technology, media, and social concerns, which have had a profound impact on the country. We will review and discuss a range of topics, some of which may be controversial. Through open discussion and debate in a safe, respectful environment students will contemplate and share their thoughts and opinions on complex issues. Come to terms with your own political convictions and discover how you can be an active and engaged citizen!

COURSE TITLE

Curbing Climate Change: Leadership & Environmental Sustainability

SUBJECT AREA

Social Science; Leadership

COURSE DESCRIPTION

As climate change continues to impact our world in ways we've never seen before, we need young leaders to take the reins to curb the impact climate change will have on generations to come. In this class you'll learn about the social impact of environmental issues such as climate migration, food and water scarcity, and the depletion of natural resources. With an understanding of the most pressing environmental issues of the 21st century, you'll explore how we can practice sustainability through conservation of natural resources, protecting diversity, and reducing pollution. Finally, you'll hone the leadership skills needed to be a global change agent to promote sustainability, including effective communication, cultural competency, integrity, accountability, and more. Through interactive and collaborative learning, you and your peers will develop foundational skills to be the next generation of global leaders in the fight against climate change.

COURSE TITLE

Living Intentionally: A Philosophy for Everyday Life

SUBJECT AREA

Social Science; Leadership

COURSE DESCRIPTION

What is your philosophy of life? What does it mean to be happy? How can you harness tools at your disposal to apply your philosophies to lead a fulfilling life? Embark on a captivating journey of self-discovery and intellectual exploration. During this course, students will learn fundamental philosophical concepts and apply them to real life scenarios while considering their impact on decision making, relationships, and personal growth. Students will develop critical thinking skills through thoughtful and engaging discussion on topics like goal setting, college preparedness, empowerment, self-confidence, leadership, and logical reasoning. Students will leave this class knowing how to apply philosophical ideas to their own life as they prepare for the future.

COURSE TITLE

Mic Drop Moments: The Secrets of Debate & Public Speaking

SUBJECT AREA

Social Science; Public Speaking

COURSE DESCRIPTION

This course will help you become a confident and persuasive speaker in any public speaking setting you find yourself in. Whether faced with a prepared speech to a filled auditorium or sharing your opinion spontaneously with a small group, the ability to communicate articulately yields influence. Learn how to improve your sentence structure, word usage, and test out strategies that attract others to your message. Apply unique techniques of vocal tonalities for earning trust. Investigate proven methods with body language that convey confidence, control, competency, and credibility and put them to test in a commanding voice that will inspire others and make a lasting impression. This course is your pathway to becoming a confident and persuasive communicator, ready to convey your ideas with poise and conviction. Students learn the art of constructing convincing arguments, researching complex issues, and articulating viewpoints effectively through lively discussions, engaging exercises and structured debates. Tap into your critical thinking and communication skills to harness the power of persuasion.

COURSE TITLE

Society Mind Games: Navigating Social Psychology

SUBJECT AREA

Social Science; Psychology

COURSE DESCRIPTION

Join us for an introduction to Social Psychology and the forces that shape human behavior in social contexts. Gain insight into why people act differently in different settings. Examine the impact of social context on thoughts and feelings to discuss how society molds individual perceptions and actions. Investigate attitudes and persuasion, looking into the tools and techniques used to influence people's opinions and behavior. Analyze the dynamics of social influence, gender roles, and group behavior. Delve into the complexities of prejudice, stereotyping, discrimination, and other factors that shape social and human interaction. This course will empower you to better understand the intricacies behind how human behavior is impacted by our social environment.

COURSE TITLE

Truth, Justice, & The American Way

SUBJECT AREA

Social Science; Law & Government

COURSE DESCRIPTION

This thought-provoking and interdisciplinary course offers students a comprehensive examination of the American criminal justice system from various perspectives. This course explores the roles and challenges faced by courts, law enforcement officials, victims, and offenders in pursuit of justice. Additionally, it addresses contemporary moral and legal dilemmas that directly impact today's high school and college students, including academic integrity, substance abuse, reputation and social media, bullying, and a teenager's place within the American legal system and society at large. You'll leave this course with a deeper understanding of how the law shapes our lives and the powerful ways the criminal justice system can influence different ages, races and genders in our society.



COURSE TITLE

Applied Data Science with Python: Unlocking Analytic Potential

SUBJECT AREA

STEAM; Computer Science & Technology

COURSE DESCRIPTION

In an era where the most successful business decisions are data-driven, it is essential to harness the latest technologies to effectively apply data to impact real-world scenarios. This course will equip students with the analytic and technical skills to draw meaningful conclusions from data using Python. Not just a programming language, Python is a versatile tool for collecting, cleaning, analyzing, and visualizing data. Our course will cover essential programming concepts with Python and apply these concepts to analyze diverse industries. Case studies may examine healthcare (where data analysis is used to identify patterns in patient data and help in the diagnosis and treatment of illnesses), finance (where data science is used to analyze financial data and make investment predictions), and e-commerce (where data science is used for customer segmentation and personalized marketing). In this interactive course, students will extract meaningful insights through statistical analysis techniques, leverage machine learning principles to make predictive models, and solve complex problems. Topics will include data handling, data manipulation, data visualization, data cleaning, deep learning concepts, and data science workflows. Throughout the course, students will work on practical exercises and projects that replicate real-world data science challenges, applying Python to drive insights and solutions. *Pairing suggestion: For a full day academic experience in Information Science, pair with Your Coding Journey: Python 101. No prior coding experience required.

COURSE TITLE

Careers in Medicine: A Pre-College Diagnostic

SUBJECT AREA

STEAM; Medicine

COURSE DESCRIPTION

So, you want to be a doctor? Or a nurse? Or a hospital administrator? What about a vaccine researcher? Well, this course aims to arm students with the information they need to make informed decisions about career options in medicine and health science. They will understand the level of coursework required for different specialties and the necessary steps it will take to cross the finish line (and potentially get those special letters after their names). Through a variety of class lectures and group discussions, class topics will focus on current hot topics including medical ethics, health disparities, biomedical research, health care costs, health care reform as well as the importance of maintaining personal wellness and mental health. During the course, our class will also welcome informational guest speakers from a variety of medical specialties, which may include nurses, physicians, clinicians, dentists, pharmacists, administrators, and researchers, for engaging conversations. And best of all - field trips! Students have the opportunity to take their learning outside the classroom and take advantage of what's right across from the residential hall! Students will visit some (there are nine!) of the medical & health centers at the world-renowned University of Michigan Medical Center and state-of-the-art Cardiovascular Center campuses! Limited Enrollment

COURSE TITLE

Decoding Biochemistry & Molecular Biology (at the Molecular Level)

SUBJECT AREA

STEAM; Biological Science

COURSE DESCRIPTION

Are you curious about the biological world and enjoy learning about science? Molecular biology explores the interactions of biological pathways in the body, and biochemistry studies the chemical reactions in living organisms. If you think you might be interested in a career in medicine, this introductory class is a great place to start. You'll explore the chemistry behind living systems including the molecular structures of proteins, lipids, nucleic acids and carbohydrates along with biological processes such as metabolism and enzyme function. You'll also deepen your understanding of gene structures and how these fields provide a foundation for research in genetics. With a greater understanding of the complex processes that shape the living world, you'll gain a whole new perspective on the science within you!

COURSE TITLE

Essentials of Biopsychology, Cognition, & Neuroscience (BCN)

SUBJECT AREA

STEAM; Biological Science

COURSE DESCRIPTION

This cross-disciplinary field combines principles of the natural sciences to understand the biological functions behind human behavior, thoughts, and feelings. This course serves as your gateway to understanding the fundamental principles that drive the intricate workings of the brain-mind connection. Covering introductory concepts involved in these areas of study, you'll learn how neuroplasticity, chemical processes, and gene functions cognitively impact the brain with memory, decision-making, and language. Course topics will include neurotransmission and communication, sensory and perceptual processes, cognition and decision making, research methods, and emerging trends. By the end of this program, you'll have a solid foundation in the essentials of BCN enabling you to further explore the depths of this captivating field or apply your knowledge to other disciplines, including psychology, neuroscience, medicine, and beyond. Join us in unraveling the mysteries of the brain and the mind.

COURSE TITLE

From Design to Construction: Mechanical Engineering & Innovation

SUBJECT AREA

STEAM; Engineering

COURSE DESCRIPTION

Whether you are fascinated by the science behind how things work, have a passion for structures and design, or have plans for a future as a mechanical engineer, this course is for you. Through a dynamic blend of lectures, hands-on exercises, and design projects, students will learn how to apply the principles of physics, mathematics, and material science to craft innovative solutions. Course topics will include structural and materials analysis, design, manufacturing processes, electricity, and thermodynamics. From developing machines and devices that optimize manufacturing processes to designing systems for energy conversion and transportation, this course will test critical thinking skills, ingenuity, and engineering prowess. There just might be a few future mechanical engineers among us!

COURSE TITLE

The Building Blocks of Architecture

SUBJECT AREA

STEAM; Architectural Engineering

COURSE DESCRIPTION

This engaging course provides students with an introductory exploration into the principles, concepts, and practices within the field of architectural engineering. After a brief overview of architecture history, we will move on to analyze case studies of iconic projects, identifying how the fusion of architecture and engineering can be employed to find solutions to real-world challenges. Through a combination of lectures, design exercises and case studies, students will gain insight into the technical aspects of architectural engineering. They'll learn about electrical systems, heating, ventilation, and air conditioning; building materials and their structural, thermal, and acoustic characteristics, and the role of environmental sustainability, energy efficiency, and daylighting strategies in modern architectural design. If you're STEM-oriented with an eye for design, this class is a great place to start developing your foundational engineering skills.



COURSE TITLE

The Science Behind Crime Solving

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 journey into the realm of crime scene investigation. Explore the techniques, tools, and methodologies employed by seasoned investigators in the field of forensics. Students will not only understand the importance of maintaining the integrity of evidence but also learn the intricacies of upholding the chain of custody as they delve into their own crime scene investigation. In this hands-on experience, students will actively participate in the processes of discovering, preserving, and analyzing evidence, including the examination of fingerprints and fibers. They will also engage in diagramming, sketching, and photography, all while navigating the intricacies of balancing critical factors in cases involving firearms evidence, arson, and explosives. Embark on our journey into crime scene investigations and discover if the world on television crime dramas just might become your new reality.

COURSE TITLE

Your Coding Journey Begins: Python 101

SUBJECT AREA

STEAM; Computer Science & Technology

COURSE DESCRIPTION

Get ready to dive into the world of coding! Introducing Python, the most versatile and widely used programming language in the world. Learn the fundamentals, from coding websites and games, to navigating large data sets. Students will start with the building blocks including variables, data types, and basic operations. Learn how to control the flow of your programs with conditional statements and loops; discover the power of functions for modular and reusable code; dive into data structures and file handling; create modules to implement object-oriented design; and learn problem solving algorithms to begin implementing code. Students will apply Python best practices and their newfound knowledge to participate in hands-on class projects that range from simple scripts to more complex real-world applications. 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. *Pairing suggestion: For a full day academic experience in Information Science, pair with: Applied Data Science with Python: Unlocking Analytic Potential. No prior coding experience required.

