

Course Offerings (2023-24)

In addition to the courses listed below, students may take any course they need in order to meet graduation requirements through the Edmentum platform, which is a self-paced online format.

Art

Painting 101 [Painting Studio]

Henri Matisse is quoted as saying “an artist is an explorer.” This seminar will provide the space for students to explore the medium, develop skills related to art elements and principles, and discuss their work with classmates. The major focus of the seminar will be for students to design and develop a painting of their own. The opening weeks will be spent learning about some of the art elements, and the remainder of the course will be on student painting projects. This seminar is designed for those who want to learn and improve their painting skills, engage in regular critiques in which they will provide and receive feedback, and dig into the painting process. Students will also have the option to develop a written artist’s statement for narrative writing.

Art is All Around Us [Art Survey]

In this seminar, students will explore a variety of art genres and artists, create their own works of art, and explore art experiences in their local community (e.g. theater, dance, film, music, studio visits, museum exhibits, etc.). Students can expect to read about different artists and art movements, engage in and analyze art experiences, create their own works when applicable, write and reflect, and engage in regular discussions with the class. Students will work individually and collaboratively to develop artwork that will be exhibited in and outside of Compass Academy.

Career & Technology Education

3D101: Making Something out of Nothing [Intro to Engineering Design]

In this seminar, students will learn basic engineering design and manufacturing principles and will have the opportunity to apply them through a variety of processes and technology. Students will have access to the interdisciplinary lab, where they will learn how to use CAD software to design three-dimensional objects, then print them on 3D printers, laser engravers, and other equipment.

CAD Drafting

Students learn how to render objects in two-dimensional and three-dimensional (perspective and isometric) drawings using traditional hand-drawn and Computer Aided Design techniques. The focus is on creating usable engineering drawing sets as might

be required in a manufacturing setting. Students then use their CAD skills to create models and prototypes to solve specific engineering problems and employ an iterative design process, using CAD systems, to refine their ideas and optimize them for cost-efficient high-volume manufacturing.

Intro to Production Manufacturing [CNC and Additive Manufacturing Principles]

Students use modern Computer Aided Design and Computer Aided Manufacturing systems to create models for 3D printer prototyping and milling in Haas Computer Numerical Control systems. Students develop CNC code and test them on actual CNC machines, while learning operating principles and techniques for refining designs for low volume soft metal and plastic parts manufacturing. The focus of the course is on students working as teams to create parts of a larger machine to solve a complex mechanical engineering problem. [Prerequisite: 3D101 or CAD Drafting]

From Zork to A.I. Dungeon: Text Adventure Programming [Interactive Game Design]

In this seminar, students will play interactive fiction computer games to learn how they work, and will then use object-oriented computer software to program their own interactive fiction game. They'll finish the course by having the opportunity to let peers try the game they designed.

English

Practical Communication [Communication Seminar]

In today's world of text messages and online booking, other forms of communication can seem intimidating. In this seminar, students will practice real-world communication skills. We will practice e-mail etiquette, make appointments and reservations over the phone, learn how to talk to customer service people, and interact with new people in a variety of different situations.

Debate

As we become more connected, it can sometimes feel like our communities are becoming more divided. In this seminar, we will learn how to engage in hard conversations and debates. Students will research topics that have multiple sides and use their research to inform their own understanding. We will engage in paired, group, and whole-class discussions; practicing active listening, building evidence-based arguments, and disagreeing with respect.

Teens Can Save the World [Public Speaking]

In our increasingly connected world, there are opportunities to be a changemaker everywhere you look. In this seminar, students will have the opportunity to explore real opportunities for change in our community. After choosing a problem they are passionate about, students will engage in research that includes interviews with community experts and data-driven research. They will then develop a research-based solution to their problem and present their plan to a live, authentic audience.

Greek and Roman Mythology (Interdisciplinary with Science) [Genre Study]

Every culture has its own mythology, stories passed down through generations that explain natural phenomena and human nature. In this seminar, students will explore Greek and Roman mythology, exploring the different versions of these myths and how they have influenced our modern beliefs.

******May be offered as an interdisciplinary opportunity with Science. In this combined seminar, students will examine the scientific phenomena that these early cultures were explaining through their mythology.

Writing Studio: Academic Writing

What do all subjects have in common? No matter what you study, at some point, you will need to convey your learning through words. When we write to demonstrate learning, we need a different set of skills than when we are writing stories or writing for ourselves. This seminar will focus on an exploration of the different formats of academic writing and provide students with opportunities to strengthen their grammar, formatting, and revision skills.

Writing Studio: Creative Writing

In this course, students will have the opportunity to freely explore narrative writing, poetry, and other forms of creative expression. Focus lessons in this studio course will range from teacher-driven lessons on elements of style to student-directed workshops focused on elements of student choice. Students should expect to share and critique drafts of work frequently and will be encouraged to share finished pieces for others to enjoy.

Writing Studio: Writing for Publication

This course is an extension of Creative Writing. Students will be encouraged to focus on developing one longer piece of writing for publication. We will explore different means of publication, the dynamic between a writer and editor as well as how a final written piece is a collaborative effort. [Prerequisite: Creative Writing]

Developing Reading Stamina [Reading Seminar]

Do you love stories but you can't find the focus to read a whole novel? Do you feel like you "hate" reading, but you know you want to improve your skills? In this course, we will learn about different types of reading and find the genres and styles that spark your interest. We will learn skills and strategies for building our focus while at the same time understanding our own reading habits and hang-ups. You can expect to leave this course with a better understanding of yourself as a reader and armed with skills that will help you across all of your seminars.

Thematic Study: Survival [Thematic Study]

What does it take to survive? Whether it is war, tragedy, or an imagined apocalypse, stories of survival have been told for generations. In this seminar, we will examine multiple stories of survival and determine what it means to be a survivor.

That's Super - The Evolution of the Super Hero [Film Study]

Great literature doesn't just happen in books. What we see on our screens is a carefully crafted story that can be examined in the same way that a novel can. In this seminar, we will study the evolution of the superhero through TV and film. Students will have the opportunity to learn about how storytelling goes from the page to the screen and look in-depth at what we can learn from our favorite heroes.

Write like a Foodie (Interdisciplinary with FACS) [Applied Writing]

In this interdisciplinary seminar, students will work in the culinary lab to develop recipes and tutorials for a food blog and website. We will learn how to write in an informative but inviting way so that people can follow our recipes.

Family & Consumer Sciences

Culinary Arts & Applications

This seminar is designed to provide students with an overview of competencies leading to entry-level hospitality industry employment. Students will apply skills through project-based learning in the areas of basic food preparation and use of industrial equipment, procedures, terminology, and training. Throughout this course, technical, employability, and academic skills will be integrated into the curriculum.

Entrepreneurship in the Culinary Arts 1

Are you interested in starting your own business or working in the restaurant industry? While mastering culinary techniques, students in this seminar will also learn entrepreneurial concepts, explore college and career options, and participate in work-based learning experiences. There will be many opportunities to apply creativity and innovation while earning industry credentials in the culinary field. Students may also

have opportunities to be involved in food service events and culinary skills competitions.
[Prerequisite: Culinary Arts & Applications]

Entrepreneurship in the Culinary Arts 2

Students will extend their knowledge of the culinary entrepreneurship arena. They will go in depth with their previous projects while continuing to extend their overall knowledge of culinary skills. This may focus on specific product development not previously researched in Entrepreneurship 1. [Prerequisite: Entrepreneurship 1]

What Are We Going to Eat? [Sustainable Foods]

Do you like to problem solve and cook? Are you interested in preserving the environment? Students will increase their culinary skills and knowledge in addition to creating viable solutions to food shortages while creating sustainable foods. Inquiry projects will focus on problem-solving this issue while investigating ways to ensure that future generations have access to nutritional food sources.

Food Science- Molecular Gastronomy (Interdisciplinary with Science)

What does this have to do with food? Explore the physical, biological, and chemical makeup of food. Explore new technologies that are changing the way we cook and eat food. In this course, we will explore science concepts related specifically to food, gaining knowledge and skill in food preparation, food selection, nutritional analysis, problem solving, and critical thinking.

World of Food (Interdisciplinary with Social Studies)

This seminar will focus on various regions, styles of cooking, and food culture. Are you interested in learning more about various styles of cuisine from around the world? Students will learn various cooking methods and create dishes related to various cultures. We will explore the history of cuisines around the world. We will create our own versions of these dishes through inquiry-based projects. Embark on a culinary journey that will allow you to travel the world right from Compass Academy!

Math

Students may complete Algebra, Geometry, Algebra II, and additional courses, as needed, in math in a blended format through Math Workshop OR they may take math-focused seminars to address their math competencies.

Algebra I (Edmentum course)

Students will work at their own pace through the course in an online format, receiving in-person support from a teacher as needed for targeted mini lessons and group

activities. Peer collaboration and team problem solving is encouraged.

Geometry (Edmentum course)

Students will work at their own pace through the course in an online format, receiving in-person support from a teacher as needed for targeted mini lessons and group activities. Peer collaboration and team problem solving is encouraged.

Algebra 2 (Edmentum course)

Students will work at their own pace through the course in an online format, receiving in-person support from a teacher as needed for targeted mini lessons and group activities. Peer collaboration and team problem solving is encouraged.

Mathletics [Mathematical Applications]

In this seminar, we are going to dig into the problem-solving creativity and excitement that can be math. This may include applying shifting into what Jo Boaler calls a mathematical mindset in order to look at math in a different way. Students will work in groups to tackle problems, look at math modeling in real-world contexts, and write about their math experience. Yes, there will be some math, but this is your opportunity to look at problem solving in a whole new way!

This is open to students in all levels of math and counts as an elective credit.

The Mathematics of Money: Financial Algebra [Algebra IA Seminar]

Most often when learning algebra, we are handed endless sheets with equations to solve and little context. Have you ever wondered how those algebraic relationships show up in the real world? Do you want to have money for retirement? Thinking about becoming a successful entrepreneur? Interested in investing? Together we will explore how algebra can help us learn about savings, maximizing profits, analyze stock performances and more. Let's discover how using algebra can actually help you earn more money and build your financial literacy.

You've Got Questions [Algebra IB Seminar]

What if Algebra didn't have to be endless worksheets filled with problems - all with a single answer with plenty of our favorites... X and Y? Have you ever wondered whether it was safe to fly on a plane at night on the 4th of July? Have you ever thought about starting a small baking business and wondered how much money you could make? Did you know that you can use data to learn more about things like why certain areas have more dogs in shelters? Maybe you'd just like to understand how fast the population of zombies could grow, you know... it never hurts to be prepared. You have questions - together we can discover some answers! [Prerequisite: Financial Algebra]

Prove It [Geometry A Semina]

You probably think you have a good idea of what a triangle is, many other shapes as well. You could likely draw them and perhaps talk to someone else about why they are the same or different. Could you prove it? We will explore geometric figures and properties from a different perspective through the use of technology and construction. Love to debate? We will use logic and reasoning to build our math argumentation skills in order to win a debate over what we see something to be versus what we can prove. You think you know Geometry - prove it!

Who Will Build It Best [Geometry B Seminar]

Have you ever wondered why all bees build their honeycombs using hexagons? Are they really that special and if so, why don't we package all of our consumer products that way? Is there a reason why soup and canned veggies are packaged in cans, but all of our cereal is in rectangular boxes? In our journey to answer those questions and more we will discover the geometric relationships of surface area and volume as well as circular objects in two-dimensional and three-dimensional space. At the end you will recommend a storage vessel for an item and defend it, and we will see... Who will build it best? Are you up for the challenge? [Prerequisite: Prove It and competency in Algebra I or equivalent seminars]

Science

It's The Little Things [Intro to Biology]

Students study the basic structure of living matter, focusing on cell biology, virology, bacteria and single-cell organisms. Students will make extensive use of microscopy and cultures to identify, sketch, journal and grow the organisms they study. Students will select a single-cell organism of their choice and create a knowledge share (poster board, model, oral or written report) about how that organism contributes to the food chain or to the environment.

Creepy Crawlies & Critters [Invertebrate Biology]

Students continue their exploration of introductory biology by exploring the structure and traits of invertebrates. Students will engage in field work, collecting data on biodiversity and habitat. Field journals will be summarized into small group projects, targeting the studied ecosystem, its invertebrate biology, and how those invertebrates contribute to and use the local food chain and may be affected by environmental factors. [Prerequisite: It's the Little Things]

Scientific Methods for Inquiry [Fundamentals of Lab Science]

Students select a topic of interest in a previous science course and investigate it quantitatively through research, experimentation, and presentation. Skills learned

include: scientific numeracy, use of units, number handling, data collection, accuracy and precision, experimental error, and the scientific method.

Earth or Bust [Intro to Ecology and Environmental Science]

Students explore their curiosity about the world around us through experimentation, field work, collaborative projects with peers and community partners and presentation to peers/faculty. Students may optionally explore social equity or justice as it intersects with ecology and the environment. Skills reinforced include: field journaling, data collection and analysis, outside research and presentation skills. [Prerequisite: Scientific Methods for Inquiry]

Chemistry is Not Bohring [Intro to Atomic Theory]

Students explore the structure of atoms and molecules, the magical arrangements in the periodic table, basic ideas in molecular geometry, and conservation of matter and how it relates to chemical reactions. Students will engage in diagramming, modeling and experimentation to better understand the structure of matter at the atomic/molecular level. [Prerequisite: Scientific Methods for Inquiry or another lab science]

Counting on Chemistry [Mathematical Topics in Chemistry]

Students will learn how to apply the numerical tools of units and significant figures learned in previous seminars or courses to design an experiment to solve a problem. They will then learn the concept of the mole and the tools of factor-label conversions, balancing chemical equations, and stoichiometry. These tools will be applied to various food recipes that have been "converted" to chemical equations while students practice the use of lab equipment to accurately measure quantities of solids and liquids. Students will apply their knowledge of chemical equations and conversions through a project of choice. [Prerequisite: Chemistry is Not Bohring]

Chemistry is the Solution [Aqueous Reactions]

Students explore the properties of aqueous reactions, including solubility, acid/base reactions, spectrophotometry, and redox reactions. Learning centers on projects to determine the identity mystery compounds through cation analysis and gravimetric analysis, and friendly titration competitions to help learn acid/base and redox reaction principles and lab techniques. [Prerequisite: Counting on Chemistry]

Shocking Reactions [Electrochemistry]

Galvanic cells and electrolytic cells are explored through creation of batteries, electrorefining, electroplating, and other practical applications of electrochemistry. Students study concentration cells and the Nernst effect in Part II of the course, conducting careful and rigorous experiments to verify predicted behavior of galvanic

cells. Students research practical applications of electrochemistry beyond the lab for a brief research paper, with potential topics including sacrificial anodes, analytical chemistry, redox titration using electrochemical potential, and emerging topics in battery technology. [Prerequisite: Chemistry is the Solution]

Physics Moves Me [1D & 2D Kinematics]

Students learn the equations of motion and problem solving through a series of projects and challenges. Students begin by exploring the nature of position, velocity and acceleration through kinesthetic challenges using motion sensors. This is followed by a series of labs exploring linear motion and ballistic motion. Working in small groups, students demonstrate their knowledge and problem solving skills by designing, testing and building siege engines in a friendly competition. [Prerequisite: Scientific Methods for Inquiry or another lab science]

You Build It, You Break It [Forces & Engineering Design]

Students learn the physics concepts and calculations relating to forces, work, power and momentum through team-based problem solving and peer-teaching. After studying the mathematical aspects of these topics, students engage in an extended competition to build the most efficient and appealing bridge possible out of sticks, incorporating engineering principles of physics, economics and aesthetics. Student designs are tested for stiffness, torsional rigidity, strength, and economic viability. Lastly, students conduct post-mortem analysis on their designs to offer areas for improvement to theirs and their peers' designs. [Prerequisite: Physics Moves Me]

From Ag to Zn [Material Science]

Through build projects and competitions, students study how shape and material choice affect strength, rigidity, manufacture, and cost of common structures such as towers, bridges, and beams. Principles of annealing, inclusions, crystalline structure, and reinforcement will be used to refine student ideas into more efficient structures. Students will use Fused Deposition Modeling (FDM) 3D printing to explore how cellular shape and density can be used to make economically efficient structures. This course forms a starting point for students who want to follow a manufacturing path in their time at Compass Academy. [Prerequisite: You Build It, You Break It]

It's Literally Rocket Science [Applied Physics]

In this seminar, students apply physics principles of kinematics, forces, and rotational dynamics, along with material science, to solve a singular task: build an efficient rocket, predict its performance, and verify that performance by instrumenting it and launching it. Students will supplement their theoretical work with wind tunnel analysis, computer

simulation, and research about the history of rocket design. [Prerequisite: Physics Moves Me]

Research Seminar: Science (May be repeated for credit)

In this seminar, students will truly drive the learning. Starting with the class-selected topic of focus, students will work individually or in groups to research a specific element of the selected topic. With guidance and support from the subject area teacher, students will synthesize their research into shareable activities that will help facilitate their classmates' learning of their chosen subtopic. Then, building on the knowledge gained through the various presentations and activities, students will demonstrate their learning through a final project with the elements (format, timeline, rubric, etc.) decided in consultation with their teacher.

Social Studies

How Did We Get Here?: The History of Immigration [US History Seminar A]

How did the US grow into the giant multicultural society it is today? Why did people choose to immigrate? How was it decided which groups were welcomed and which ones were shut out? In this seminar, students will learn about different waves of immigration to the United States by Europeans, Africans, Central and South Americans, and Asians. Topics covered may include: push and pull factors, changing US policy, public responses, and the effects of immigration. Final projects will be a research inquiry into your own family's immigration history (or another chosen group).

Work, Eat, Sleep, Repeat - A History of Labor in the US [US History Seminar B]

The concept of work in America has been redefined many times. What are the major shifts that have happened, and what drove them? Why has work meant different things to different people? How is work changing today, and what could be coming in the future? In this seminar we'll learn about different modes of production and the labor movement throughout US history. Topics covered may include: indentured servitude, slavery, women's domestic labor, the industrial revolution, Jim Crow, labor unions, the New Deal, automation, and the gig economy. Students will conduct an inquiry project of choice related to one of the topics studied.

Lines on Maps: The History of Colonialism [World History & Geography A]

Have you ever wondered why people in Belize speak English, or why people in Haiti speak French? Do you know how the countries and borders on the world map were created? The age of colonialism helped shape the modern world, for better and for worse. In this seminar, we'll learn about different periods of colonialism and why the world looks the way it does today. Topics covered may include: early empires, first and second waves of colonialism, independence movements, neocolonialism, and case

studies of particular countries. Final projects will be a research inquiry on a student-selected country in Asia or Africa that was colonized.

Burn It Down: The History of Revolution [World History & Geography B]

This seminar will approach the skills of understanding world history through a study of world revolutions in particular, which are full of dramatic events, political intrigue, and violence. We'll learn about many different major revolutions, their causes, outcomes, and common themes. Some were undertaken to create a totally new kind of government, and some took their countries back to previous regimes. Topics covered may include: the French, Russian, Haitian, Chinese, Iranian, and Arab Spring Revolutions. Final projects will be a research inquiry into a student-selected revolution.

Civics Seminar: Fixing Democracy [American Government]

The US has one of the oldest Constitutions that is still in use. Because of that, there are some issues and events that affect our politics today which its writers couldn't have anticipated. For example, what happens when you create a form of government that doesn't address political parties, and then political parties become the most important part of government? In this seminar, we'll learn about how the American system of government works and doesn't work for residents of the US. Topics covered may include: Constitutional rights, political institutions, elections, and the factors that make our system less democratic. Students will conduct a research inquiry into a student-selected problem in the US that they believe the government could solve.

Civics Seminar: Red and Blue America [American Politics]

Are you interested in why the Democratic and Republican parties are the way they are, and what's going to happen to them? The American political system has evolved several times, and it's rarely been predictable for the people living through it. We'll address controversial political topics, and students will have plenty of chances to debate. This seminar will attempt to prepare you for the inevitable transitions of your lifetime by looking at what the major political changes of the past have been. We'll learn about how the American political system developed into what it is today. Topics covered may include: the history and current state of the Democratic and Republican parties, the history and current state of prominent political issues, and structural factors of American democracy that influence our politics. Students will conduct a research inquiry into a student-selected political issue.

Economics Seminar: Putting the "Me" in Economy [Microeconomic Thinking]

Have you ever debated whether to go out to eat or make food at home? You may not have realized it, but you were thinking economically. Even decisions that don't involve money, like what show to watch or whether you should ask your crush out, involve

economic principles. This seminar will teach you how to make smart decisions and be as happy as possible (in theory). We'll learn about how to apply the principles of economics to your daily life and financial decisions. Topics covered may include: opportunity cost, marginal cost/benefit, utility, investing, budgeting, and saving. Final projects will be a podcast or presentation applying economic principles to your daily life as well as the big decisions in your future.

Economics Seminar: On the Margin [Macroeconomic Thinking]

Why do things cost what they do? Is it really all supply and demand, or are there other forces at play? What is the government supposed to do to keep the economy running well, and how much do we know about that? What does this have to do with you, and how do you use that knowledge? This seminar will help you understand what people talk about when they talk about the economy. We'll learn about how to apply the principles of economics to understand the economy at large. Topics covered may include: supply and demand, the stock and bond markets, bubbles, financial crises, inflation, and monetary policy. Final projects will be a podcast or presentation explaining the economic forces involved in a student-selected industry.

Research Seminar: Social Studies (May be repeated for credit)

In this seminar, students will truly drive the learning. Starting with the class-selected topic of focus, students will work individually or in groups to research a specific element of the selected topic. With guidance and support from the subject area teacher, students will synthesize their research into shareable activities that will help facilitate their classmates' learning of their chosen subtopic. Then, building on the knowledge gained through the various presentations and activities, students will demonstrate their learning through a final project with the elements (format, timeline, rubric, etc.) decided in consultation with their teacher.

Wellness

Students may take a traditional PE class at their home high school, enroll in an independent study PE course at Compass (see topics below) OR they may take a wellness-focused seminar to address their wellness competencies.

Independent Study: Physical Education (May be repeated for credit)

Students will address specific health and wellness competencies by meeting the teacher-determined requirements for one of the following student-selected options: compete on a school athletic team, club, or travel athletic team; regularly attend a fitness class or guided athletic activity; create an individual fitness plan; develop health literacy; or develop health advocacy. Each option requires a demonstration of learning through writing, reflection, and/or documentation.

Yoga & Mindfulness

In this seminar, students will learn techniques of yoga, pilates, meditation, and mindfulness, applying them throughout a course that will encourage positive health through movement as well as understanding the role of nutrition and sleep in their own wellness. Students in this seminar will be expected to participate in common fitness activities both in and out of the building.

Sports Studies and Performance

This seminar will have two main components. First, students will study sports from multiple lenses and perspectives. For example, they might explore social, economic, and ethical issues that impact the sports world. They will also select topics based on current trends and events. Second, they will play team sports. Note that they will focus on playing field sports such as ultimate frisbee, softball, kickball, and soccer. Students should expect to spend an equal amount of time studying sports as part of whole class and independent activities as they do playing sports.

Healthy for Life

This seminar will focus on elements of physical, social-emotional, and sexual health and well-being as students will work to develop the knowledge and skills they will need to maintain their health and wellness for life. Some days we will engage in lifetime fitness activities, such as walking (outside in the community when we can), and other days we will engage in class activities and discussion centered on other elements of health and well-being. Students will research relevant health-related topics of choice and share their findings with the class. We will also take time to explore and analyze examples of health-related advertising and messaging in contemporary society before students have the opportunity to create a message of their own through a format they choose.

Work-Based Learning

Career Exploration

In this seminar, students will research and explore career interests, interact with guest speakers, conduct job shadowing, and engage in other work-based learning experiences. Students in this seminar may have the opportunity to write and refine their resume, polish their interview skills, and enhance other employability skills both inside and outside of the classroom. Some individual and group work-based learning experiences for this seminar will be conducted on Wednesdays off-campus. Students should expect to present evidence of their learning throughout the course.

Internship Program [Internship]

This is a coordinated independent study program which partners District 303 students with various local industrial, service, and professional businesses throughout the Fox Valley area. An internship allows students to work side by side with professionals for a minimum of 75 hours during a semester in order to experience the day-to-day responsibilities of a specific profession. The Internship Program provides practical insight and experiences that will help students decide if a particular career is right for them.

World Languages

Students may either take World Languages courses in an online format through the Edmentum platform or in person at their home high school.