



## 2024-2025 CTE Courses

**Advanced Manufacturing 1      2 credits      Grades 10, 11, 12      Full year**

Students in the manufacturing program learn the manufacturing processes and design through a project-based learning experience. Projects may include processes such as CNC milling, waterjet cutting, plasma table, welding, CADD, lathe, robotics, dimensional measurements, and such. Students can follow a wide variety of paths, including graphic design production, machine tooling and forming, welding and material joining, automation, and product innovation and design.

**Automotive Technology 1      2 credits      Grade 11      Full year**

Explores the transportation industry, automotive industry and specific automotive systems. Students learn about the automotive industry, vehicle lubrication, wheels and tires, brake systems, basic automotive electronics and steering and suspension. Instruction time is divided between the classroom and the shop. Students are required to maintain a notebook and participate in repair and maintenance procedures in the automotive lab.

**Biotechnology & Biomedical Sciences 1\*      2 credits      Grades 10, 11      Full year**

Students study biology and explore biotechnology by working in a real-world laboratory environment. Learn basic protocols and advanced techniques for analyzing cell structures, genetic manipulation, medical microbiology, molecular biology, forensic analysis and protein production. In this academic course, students will explore the theories and technologies of the rapidly expanding biotech industry through valuable hands-on activities conducted in a state-of-the-art laboratory. Internships are also available for qualified students. Lab coats are required for this class.

**Business Finance\*      1 credit      Grades 10, 11, 12      Semester**

Explore the principles and practices for the financial industry of the United States. Develop a strong foundation in banking, credit, investments, and insurance from the perspective of both consumer and industry specialists. Students understand and develop a good personal financial plan. This course, on its own or coupled with Global Finance, strengthens student understanding of domestic financing opportunities.

**Careers in Education 1\*      2 credits      Grades 10, 11      Full year**

Are you interested in a career related to Early Childhood Education? Do you enjoy working with children? This course will introduce the basic knowledge needed to pursue a career in education, whether it is an early childhood learning center, an elementary school or other child-oriented institution. Learn how to set up a classroom environment and how to maintain the health, safety and nutrition of the children in your charge. You will explore different philosophies in early childhood education, familiarize yourself with children's literature, learn about behavior

management and receive an introduction to curriculum and lesson planning. In addition, you will work in the Purple Panther Preschool and get hands-on experience with pre-school children between the ages of 3 and 4 years old.

**College Accounting 1\***                      **1 credit**                      **Grades 9, 10, 11, 12**                      **Semester**

Accounting is the language of business. Students utilize spreadsheet software to keep financial records, summarize data, and analyze information to provide assistance to management for decision-making. This course is essential for any student considering a major in accounting, management, marketing or finance.

**Computer Aided Drafting/Design 1 (CADD) \***                      **2 credits**                      **Grades 10, 11**                      **Full year**

Students design their own building or product using state-of-the-art Autodesk software applications. They learn how to use commands, capabilities and procedures to produce a professional, industry-standard drawing. After a general introduction to computer-aided design and drafting, they choose one of two self-paced tracks, Architectural/Civil drafting or Mechanical/Electrical drafting. In Architectural/Civil Drafting, students create floor plans, elevations and section views from their own designs and learn how to create all the plans required for a building permit. In Mechanical/Electrical Drafting, they create mechanical assembly designs of their own products and learn basic geometric tolerance, fits, manufacturing processes and electrical drafting. They also use computer-controlled machines to make products.

**Computer Networking 1\***                      **2 credits**                      **Grades 10, 11**                      **Full year**

This course explores a computer network design by learning about the OSI model and current industry standards. Students study network topologies and IP addressing along with router configurations and required networking components. Program approved as CISCO Academy.

**Construction Technology 1**                      **2 credits**                      **Grades 11, 12**                      **Full year**

The skills and knowledge learned in Construction Technology will help students to develop a basis for a wide range of careers in the building industry, whether they are interested in the trades, construction design and planning or management. Students will learn the safe operation of hand and power tools, as well as how to read blueprints and understand construction with math principles. Their new skills in carpentry, siding and roofing.

**Cosmetology 1**                      **2 credits**                      **Grade 11**                      **Full year**

Gain foundation competencies in Cosmetology related to orientation, safety, leadership, personal development, chemistry, properties of the scalp and hair, draping, shampooing, rinsing and conditioning, removing unwanted hair, waving, wet hairstyling, roller sets, manicures and pedicures and thermal hair styling/blow drying. This a hands-on course with practice and review in each area. Students will be tested individually on each subject and be required to pass a practical assessment. Licensing and uniform fees are required.

**Culinary Arts 1\***                      **2 credits**                      **Grades 10, 11**                      **Full year**

Prepares a student for a career in the food service industry. Students train in the basics of planning, purchasing and preparing food in quantity. Students learn cooking techniques and preparation,

selection and use of utensils and equipment and safety and sanitation techniques involved in food preparation. The culinary program is certified through the American Culinary Federation. Demonstrating your skill, knowledge and professionalism in the food service industry gives you a competitive edge over other chefs.

**Cybersecurity 1** *1 credit Grades 10, 11, 12 Semester*

In this course you will learn about cybersecurity threats, cyber ethics, computing fundamentals, networking, cryptology, Linux, risk identification and system administration. Expect an engaging hands-on learning environment with simulations and authentic cybersecurity applications. Participate in cybersecurity competitions while earning an ICT credit.

**Design & Visual Communication 1\*** *2 credits Grades 10, 11 Full year*

This year long course will introduce students to the basic elements of visual communication through lecture, demonstrations and hands-on applications in a state-of-the-art Mac lab. Students will focus on skill levels using Adobe software: Photoshop, Illustrator, and InDesign. Design and Visual Communications I is for students interested in communication, critical thinking, production, problem solving, and the team approach to the final product. Students should be prepared to work individually and within groups to produce clear and effective communication.

**Electrical Technology 1** *2 credits Grades 10, 11 Full year*

This course is designed to teach the skills required to become an apprentice electrician. In this program, students learn to install electrical equipment for lighting, heating and power applications in commercial and residential buildings according to the National Electric Code.

**Engineering Design & Development** *1 credit Grades 10, 11, 12 Semester*

The knowledge and skills students acquire through the various engineering and STEM courses come together in this course as they identify an issue and then research, design and test a solution, ultimately presenting their solution to a panel of engineers. Students apply the professional skills they have developed to document a design process to standards. Completing EDD prepares students for various post-secondary programs and entry level work. **Prerequisite - Introduction to Engineering Design**

**Global Finance\*** *1 credit Grades 10, 11, 12 Semester*

To provide a conceptual understanding of global financial strategies, and interest rates differentials: the institutional framework of foreign exchange markets and to enhance the topics of Business Finance to a global platform. This course, on its own or coupled with Business Finance will serve students well to strengthen their understanding of global financing opportunities.

**Health Sciences 1\*** *2 credits Grade 11 Full year*

Explore health occupations and careers through this overview of Anatomy and Physiology. Included in this class are labs, which solidify the information received in the theory portion of the class. This class also includes the study of medical terminology, career guidance and the opportunity to become CPR/First Aid certified.

**Heating, Ventilation, Air Conditioning & Refrigeration (HVACR) 1** *2 credits Grades 10, 11 Full year*

Students learn refrigeration fundamentals, electricity and controls; installing, operating, servicing and repairing both heating and air conditioning equipment through classroom demonstrations and laboratory experiments. They work on domestic and commercial refrigeration and window and central air conditioning equipment, including heat pumps and oil and gas systems. Students learn on modern equipment, including three phase electrical components. The demand for skilled technicians far exceeds the supply in this field.

**Introduction to Engineering Design\*      1 credit      Grades 10, 11, 12      Semester**

Develop three dimensional solid models by working from sketching simple geometric shapes to applying the use of solid modeling software Autodesk Inventor. Students work within a problem-solving design process and learn how it is used in industry to manufacture a product. They use Computer Aided Design System (CAD) to analyze and evaluate the product design. The techniques learned and equipment used is state-of-the-art and are currently in use by engineers throughout the United States.

**Marketing for Retail & Fashion\*      1 credit      Grades 10, 11, 12      Semester**

This introductory course helps students develop an extensive understanding of marketing concepts and theories that apply to the retail and fashion business. Areas covered in this course include: the basics of marketing, target marketing and segmentation, retailing, merchandising and related industries, promotion and marketing plans.

**Marketing for Social Media\*      2 credits      Grades 11, 12      Full year**

This course provides the foundation of social media and digital marketing. You'll learn what social media marketing entails, including the history and the different social media channels that exist. You'll learn how to select a social media or digital channel that fits your needs, set goals and success metrics, and determine who your target audience is. In addition, this course will familiarize students with the principles of sales and marketing in a business to consumer space through the operation of the school based enterprise. The course will provide an understanding of the sales function in retail environment, with topics including sales training, consumer service, merchandising, and the effective use of CRMs. The course will also provide students with an overview of managing retail businesses, with a focus on Product/Service Management, Distribution, Pricing and Selling.

**Prerequisite - Marketing for Retail & Fashion OR Marketing for Sports & Entertainment.**

**Marketing for Sports & Entertainment\*      1 credit      Grades 10, 11, 12      Semester**

This introductory course helps students develop an extensive understanding of marketing concepts and theories that apply to sports, entertainment, and business. Areas covered in this course include: the basics of marketing, target marketing and segmentation, public image, the entertainment industry, entertainment marketing, and legal issues for sports and entertainment.

**Principles of Engineering\*      1 credit      Grades 10, 11, 12      Semester**

Through problems that engage and challenge, students explore a broad range of engineering topics including mechanisms, the strength of structures and materials and automation. Students develop skills in problem solving, research and design while learning strategies for design process documentation, collaboration and presentation.

**Small Business Management\***      **1 credit**      **Grades 10, 11, 12**      **Semester**

Learn what it takes to run a small business! Students develop skills and knowhow needed to successfully operate and manage a small business. This course builds skills and knowledge of business ownership, legal issues, market analysis, business finance/start-up costs, business trends, marketing, and pricing strategies through the development of a business plan on the student's business of choice.

**Video Production & Broadcasting 1\***      **2 credits**      **Grade 11**      **Full year**

Video production and Broadcasting introduce students to all aspects of the media industry. Students learn through hands-on projects how to use our state-of-the-art high definition broadcast facility and Mac computer lab, and learn on industry-standard equipment. Students learn about the art and technology of modern communication while producing award winning projects for the class, the school district and the community. They increase their self-confidence and organizational abilities by learning how to plan and execute projects on their own and in groups. Video production and broadcasting lays a foundation of skills, both technical and career readiness that properly prepares students for the next step of their career in the media industry.

***\*All programs with an asterisk (\*) offer an Honors Level.***

We also offer the following that have prerequisites:

Advanced Manufacturing 2

Automotive Technology 2

Biotechnology & Biomedical Sciences 2

Careers in Education 2

College Accounting 2

CADD 2

Computer Networking & Cybersecurity 2

Construction Technology 2

Cosmetology 2

Culinary Arts 2

Design & Visual Communication 2

Electrical Technology 2

Health Sciences 2

HVACR 2

Video Production & Broadcasting 2