



# LIVONIA CAREER TECHNICAL CENTER

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## art & communications

### 0938/2938 graphic design

This course will teach students basic skills that will prepare students for a career in art and design. Using industry-standard software, students learn basic technical skills in Adobe Illustrator, Photoshop, and InDesign on a Mac platform. Topics include fundamental principles of design, typography, document design, project management, advertising, and career exploration in design. This is a project-based course where students produce a digital portfolio and may receive college credit upon completion of the course. A trip to Chicago is included as a Work-based Learning opportunity for exposure to post-secondary schools and design studios. **Basic computer skills are required.**

### 0939/2939 advanced graphic design

**Prerequisite: Graphic Design or instructor permission.** This course teaches the digital fundamentals in layout, design, and illustration through a project-based learning approach. Current industry-standard software on a Mac platform is used and applied to assess student proficiency and skills. Coursework focuses on enhancing skills in visual literacy, color theory, and the use of design elements, and techniques in digital illustration, advertising, and entrepreneurship. All students will develop a portfolio and will learn about careers in Advertising, Graphic Design, Animation, WebDesign, Screenprinting, Vinyl Printing, Children's Illustration, and Vehicle Wrapping. A trip to Chicago is included as a Work-based Learning opportunity for exposure to Post-secondary schools and design studios.



## business, management, marketing & technology

### 0920/2920 fashion merchandising 1

This introductory course includes the study of textiles, clothing design, visual merchandising, advertising, and marketing, with a stronger emphasis placed on design, marketing basics, and the fashion industry. Real-World applications include a trip to Chicago to visit designer showrooms and post-secondary fashion schools, as well as participation in planning the annual charity fashion show that the class puts together each year. Along with the marketing, design, and merchandising taught in the class, students will also learn about the sewing machine and basic sewing techniques to accompany the design portion of the class. This class is a hands-on, project-based class.

### 0921/2921 fashion merchandising 2

**Prerequisite: Successful completion of Fashion Merchandising 1.** This second-year course is a continuation of the study of textiles, clothing design, visual merchandising, advertising, and marketing, with a stronger emphasis placed on leadership, marketing, and fashion show planning. This class plans the entire spring charity fashion show. Real-World applications include a trip to Chicago to visit designer showrooms and post-secondary fashion schools, as well as the opportunity to direct the annual charity fashion show that the class puts together each year. Along with the marketing, design, and merchandising taught in the class, students will also learn more complex sewing techniques to accompany the design portion of the class. This class is a hands-on, project-based class.

### 0902/2902 management business administration 1

MBA is designed to introduce students to the exciting and challenging world of business. Through the information and activities covered in class, students will increase their preparation to be a knowledgeable consumer, well-prepared employee, and effective citizen in today's economy. Topics will focus on the economic environment, global competition, entrepreneurship, human resources, marketing, accounting, finance, and information systems.

#### Notice of Nondiscrimination

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## engineering, manufacturing & industrial technology

### 0936/2936 automotive technology 1

This is a year-long course designed to prepare students for a career in the automotive technology field. All instructional material meets the ASE Education Foundation standards for Maintenance and Light Repair (MLR). Students will be introduced to all eight NATEF areas with concentrations in safe practices, tools, shop equipment, light repair and maintenance skills.

### 0937/2937 automotive technology 2

**Prerequisite: Successful completion of Automotive Technology 1.** This is a year-long course designed to prepare students for a career in the automotive technology field. All instructional material meets the ASE Education Foundation standards for Maintenance and Light Repair (MLR). This course advances the basic skills learned in Automotive Technology 1 with concentration on brakes, advanced suspension and steering, and advanced HVAC.

### 0946/3946 constructions trades 1

This is a one-year, two-hour block course in which students are introduced to the many different skills involved in construction. This course will involve classroom and laboratory work as well as practical job site experience on construction projects.

### 0914/2914 construction trades 2

**Prerequisite: Successful completion of Construction Trades 1 or instructor permission.** This three-hour block course builds on the foundational skills developed in Construction Trades 1. Students participate in an authentic residential remodeling project every year. Acting as contractors, students will complete various tasks in the construction and remodeling process.

### 0942/2942 engineering design 1

Students will be introduced to drafting and design concepts, including principles of mechanical, civil, and bio-mechanical engineering, as well as product and transportation design. Students will create 3D model design projects and take field trips to tour advanced manufacturing facilities. Students will learn how to use AutoCAD, SolidWorks, and Bio-Mechanical software.

### 0944/2944 engineering design 2

The students will be introduced to Advance Engineering Design concepts of Transportation, Architecture, Bio-Mechanical, Civil, and Product Design. Students will produce scale models and sketches of their ideas and concepts. The goal of this class is to learn more design concepts using Revit, Alias, Solid Works, Mimics, AutoCAD, Sketchbook designer, and Power Draft software. Students will also be trained to use the 3D-Parametric machine for their projects.



## hospitality & tourism

### 0928/2928 hospitality management 1

In this introductory course, students gain practical, hands-on knowledge and skills within a relevant and industry-driven curriculum. This course not only covers the basics of food preparation and food safety, but also crucial food service concepts such as customer relations, cost accounting, controlling food costs, and marketing. Students will participate in the operation of the Patriot Inn restaurant, housed at Franklin High School, which will mimic the same table service skills found in the food service industry.

### 0929/2929 hospitality management 2

**Prerequisite: Successful completion of Hospitality Management 1 or instructor permission.** In this second-year course, students will expand on their food service and marketing skills, while also learning how to prepare menus and create new foods. Instruction is student-driven, as second-year students explore a certain cooking or baking skill.

**0934/2934 criminal justice technology**

Criminal Justice is a one-year, two-hour instructional program designed for students interested in investigating careers as criminal lawyers, federal agents, police officers, civilian police personnel, firefighters and EMT, corrections officers, or private security. This course will introduce students to various public safety agencies and provide the students with the recommended path to pursue their desired career choice. Students will learn technical and academic standards used in public safety careers.

 information technology

**0904/2903 animation and web design 1**

Students will create, design, and produce interactive multimedia products and services. Students will be provided a broad-based foundation for beginning a career in areas such as Animation, Web Design, and Motion Graphics. The student will learn HTML5, CSS3, Bootstarp, Adobe Photoshop, and Adobe Animate.

**0911/2911 game design**

This is a project-based course and will cover the fundamentals of game design and coding by following a real-world design and engineering process. Students will create socially useful games and applications for mobile devices and the web. The course emphasizes communication, collaboration, creativity, and problem-solving.

**0906/2906 internet engineering**

This course introduces the architecture, structure, functions, components, and models of the Internet and computer networks. The principles of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LAN's, perform basic configurations for routers and switches, and implement IP addressing schemes.

**0907/2907 computer repair/computer security**

The curriculum covers the fundamentals of PC technology, networking, and security. Students will learn hands-on technical aspects of the microcomputer, including hardware and software system setup, and troubleshooting with the use of tools, hardware components, as well as hardware and software interfacing. Students will install, configure, upgrade, optimize, and perform preventive maintenance with respect to security using appropriate tools, diagnostic procedures, and troubleshooting techniques.

 career internship and skilled trades internship

**1857/2857—3 hr ~ career internship program**

**1859/2859—2 hr ~ career internship program**

The Career Intern Program is a work-based career exploration experience for high-achieving, college-bound seniors. This course is by invitation only. Letters of Invitation to all juniors with a 3.0 or higher GPA are mailed in January.

**1851/2861—2 hr ~ skilled trades intern program**

Students who have an interest in a skilled trade that cannot be met through existing programs may apply for participation in the Skilled Trades Internship Program. Through non-paid internships, students experience careers by working with personnel in the trades industry. At the conclusion of one semester, or a full year's training, the student may be qualified for employment in an entry-level job. This is a full-year course.



**0941/2941 pre-sports medicine**

This hands-on course will be taught by a Certified Athletic Trainer and will focus on anatomy and physiology, disease processes, medical terminology, professionalism, infection control, and safety, vital signs, taping, and wrapping techniques. Certifications earned include BLS/CPR, First Aid and Stop the Bleed.

**0930/2930 pre-medicine**

This hands-on course will be taught by a Registered Nurse and will focus on anatomy and physiology, disease processes, medical terminology, professionalism, infection control and safety, vital signs, blood glucose monitoring, and injection skills. Certifications earned include BLS/CPR, First Aid, and Stop the Bleed.

**0945AD/2945AD advanced sports medicine**

*Prerequisite: Successful completion of Pre-Sports Medicine or Pre-Medicine (73% or higher every marking period) at LCTC with a recommendation from your LCTC medical teacher.* Upon recommendation of the first-year health science teacher, students may return for the second year of advanced sports medicine curriculum. This course will dive more deeply into different careers involved in sports medicine, the specifics of becoming and working as an athletic trainer, emergency preparedness, sports nutrition, hands-on assessment and evaluation of athletic injuries, rehabilitation and modalities, taping and wrapping, kinesiology, and an in-depth focus into the anatomy, physiology and common sports injuries associated with the different body joints and regions.

**0916/2916 advanced medicine**

*Prerequisite: Successful completion of Pre-Sports Medicine or Pre-Medicine at LCTC with a recommendation from your LCTC medical teacher.* Advanced Medicine provides students with an in-depth understanding of advanced anatomy, physiology, and pathophysiology, advanced patient care skills including phlebotomy and EKG monitoring and analysis, and a robust understanding of the professional responsibilities of the health care provider. By the end of this course, students will be eligible to sit for the National Healthcareer Association: Certified Patient Care Technician (NHA:CPCT) examination. Upon successful completion of the exam students will earn one ACE college credit and hold a national certification as PCT. The PCT credential allows students to work in any healthcare setting including hospitals, clinics, offices, and long-term care facilities. Additional curriculum includes the study of maternal and fetal health, pediatric through geriatric human growth and development, mental health, and complementary and alternative medicine. This course has an overarching focus on safe patient practices, ethical competencies, and employability and technical skills. Hands-on clinicals and teamwork are essential standards of medicine, making attendance imperative.

**embedded credit (except the internship programs)**

All LCTC courses earn these additional academic credits:



**Senior Math**

**Visual Performing & Applied Arts**

**2nd year World Language**

**Health (Health Science classes only)**

In addition to the embedded credits, LCTC also satisfies the Physics/Physical Science graduation requirements.