

LIVONIA CAREER TECHNICAL CENTER

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2024—2025



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 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 use of design elements, techniques in digital illustration, advertising, and entrepreneurship. All students will develop a portfolio and will learn about careers in Advertising, Graphic Design, Animation and Web Design, 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 with 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, a well-prepared employee, and an effective citizen in today's economy. Topics will focus on economic environment, global competition, entrepreneurship, human resources, marketing, accounting, finance, and information systems.

0903/2903 management business administration 2

Prerequisite: Successful completion of MBA 1. MBA 2 is a continuation of MBA 1 where students create and operate a simulated business to prepare them to work in a real business environment. Students determine the nature of their business, its products and/or services, its management and structure, finances, and engage in daily business operations.



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 re-modeling process. Students will receive their 60 hour builders license.

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, Power Draft software. Students will also be trained to use the 3D-Parametric machine for their projects.



health sciences

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, and taping and wrapping techniques. Certifications earned will include BLS/CPR, First Aid and Stop the Bleed. Senior students who achieve a 73% or better each semester will also have the opportunity to obtain the Certified Physical Therapy Aide credential through American Allied Health. Juniors can continue in health sciences at LCTC through their senior year where they can gain the Certified Patient Care Technician credential in Advanced Medicine or the Certified Physical Therapy Aide credential in Advanced Sports Medicine.

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. Skills learned include, vital signs, blood glucose monitoring, and injection training. Available certifications for all students to earn include BLS/CPR, First-Aid, and Stop the Bleed. Based on age and graduation restrictions, seniors enrolled in this course will also be offered Certified EKG Technician (CET) training through the National Healthcareer Association (NHA). Juniors interested in earning a specialty certification are encouraged to take a second-year health science course at LCTC.

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 junior year LCTC health science instructor. This course will dive more deeply into different careers involved in sports medicine, including how to become a Certified Athletic Trainer. Other topics covered in the advanced course are the athlete's circle of care, athletic training facility specifics, emergency preparedness, sports nutrition, advanced anatomy of the skeletal and muscular systems, rehabilitation and modalities, advanced taping and wrapping, kinesiology, common athletic injuries and hands-on assessment and evaluation of these athletic injuries. At the completion of this course students who achieve a 73% or better each semester will have the opportunity to gain the Certified Physical Therapy Aide credential through American Allied Health.

0916/2916 advanced medicine

Prerequisite: Completion of Pre-Sports Medicine or Pre-Medicine at LCTC with the 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 professional responsibilities of the health care provider. By the end of this course students will be eligible to sit for the National Health Career 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 a 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.

information technology



0904/2904 animation and web design 1

Students will create, design and produce interactive multi-media 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. Students will learn HTML5, CSS3, Bootstrap, Adobe Photoshop and Adobe Animate.

0911/2911 game design

This is a project-based course and will cover 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.



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 operations 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.



law, public safety, corrections & security

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 the public safety careers.



career internship and vocational internship

1857/2857—3 hr ~ 1859/2859—2 hr ~ career internship program

The Career Intern Program is 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.

1861/2861—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 a year of training, the student may be qualified for employment in an entry-level job. This is a full year course.

embedded credit (except the internship programs)

All LCTC courses earn these additional academic credits:



Senior Math



2nd year World Language credit



Visual Performing & Applied Arts



Health (Health Science classes only)

In addition to the embedded credits LCTC also satisfies 3rd year Science graduation requirements.