ERIE 1 BOCES

INSTRUCTIONAL
PROGRAMS CATALOG

CAREER AND TECHNICAL EDUCATION
EXCEPTIONAL EDUCATION
WORKFORCE DEVELOPMENT

OUR PURPOSE

is to

PROVIDE **STUDENTS** WITH A **UNIQUE** REAL-WORLD Interactive **EXPERIENCE**

State-of-the-Art FACILITIES

HIGH QUALITY INSTRUCTION

and A FOUNDATION FOR CAREER PATHWAYS

erie boces

Our Mission
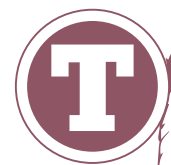
**We're committed to those we serve
- students, staff and communities -
by understanding, anticipating and responding to their needs.**

erie boces

Akron Central School District

Alden Central School District

Amherst Central School District

Cheektowaga Central School District

Cheektowaga-Sloan Union Free School District

Clarence Central School District

Cleveland Hill Union Free School District

Depew Union Free School District

Frontier Central School District

Grand Island Central School District

Hamburg Central School District

Kenmore-Town of Tonawanda Union Free School District

Lackawanna City School District

Lancaster Central School District

Maryvale Union Free School District

Sweet Home Central School District

Tonawanda City School District

West Seneca Central School District

Williamsville Central School District

Thank you for your continued support!

The Erie 1 BOCES Advantage

New York State Approved CTE Programs

Erie 1 BOCES Career and Technical Education programs are built on core academics enhanced by emerging technologies. Credit bearing academic services are available at Harkness, Kenton, and Potter. Each 2-year CTE program offers a 4th unit in English, 3rd unit in math and/or 3rd unit in Science.

Requirements	CTE Pathway	CDOS 4+1 Pathway	CDOS Credential
Exit Award	Regents Diploma	Regents Diploma	CDOS Credential (exiting credential or in addition to Regents or Local Diploma)
ESSA Score	2.0	1.5	0.5
Eligibility	All Students	All Students (Non-NYSAA)	All Students (Non-NYSAA)
Required Credits	22 Credits	22 Credits	None
Required Regents Exams	Pass 4 required Regents: • ELA • Math • Science • Social Studies	Pass 4 required Regents: • ELA • Math • Science • Social Studies	No Regents exam requirements but students must have access to Regents coursework.
CTE Requirements	Successful Completion of an SED Approved CTE Program: • Min. 3 credits of CTE • WBL Experiences • Employability Profile • National Technical Assessment	Erie 1 BOCES can fulfill the following CDOS components: • 216 Hours of CTE aligned to Commencement Level CDOS Standards • 54 Hours of Work-Based Learning Experiences • Development of an Employability Profile • Erie 1 BOCES does not complete the Career Plan	

Important Notes for Schools:
• The District, not Erie 1 BOCES, issues the CDOS Credential.
• Erie 1 BOCES is not responsible for the completion of a Career Plan.
• CDOS is embedded in ALL CTE and Career Exploration programs. However, CDOS components are fulfilled only when students complete the training sequence, ie. Building Trades Years 1 and 2, Occupational Education Years 1 and 2. For Career Exploration students in need of CDOS, please speak to an E1B School Counselor.
• Employability Profiles and Work Based Learning hours will be provided to the district upon request.
• All 2-year New York State approved CTE programs offer National Technical Assessments toward a 4+1 Regents Pathway.

Liaison Teacher Services

Liaison teachers ensure the transition of special education services between the District and CTE. They share student progress with District special education teachers and counselors. Liaison teachers represent CTE teachers at students' CSE meetings and secure student IEPs from the District to assist CTE teachers with their interpretation and implementation. Liaisons provide instructional and behavioral strategies and arrange all testing accommodations.

INTEGRATED ACADEMIC CREDIT

CTE Program	Integrated ELA Credit	Integrated Science Credit	Integrated Math Credit	CFM Credit	4+1 Pathway	Other Credits Per Year
Animal Science	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Auto Technician Training	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Aviation Technology	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Baking and Pastry Arts	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Barbering	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Building Trades	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Collision Repair	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Connections: Health Related Careers (New Visions)	-	-	-	-	-	ELA 12 (1.0) PIG / Economics (1.0) Anatomy, Physiology and Disease (1.0) Internship (1.0)
Cosmetology	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Criminal Justice	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	PIG (0.5)
Culinary Arts	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Cybersecurity and Networking	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Dental Laboratory Technology	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Digital Media	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Early Childhood Education	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	Integrated Parenting (0.5)
Electrical Systems	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Electronics and Computer Technology	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Emergency Medical Services	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	Integrated Health (.5)
Engineering and Robotics	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Enterprise and Entrepreneurship (New Visions)	-	-	-	-	-	ELA 12 (1.0) PIG/Economics (1.0) Internship (1.0) Public Speaking (1.0)
Fashion Design Technology	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Health Careers	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	Integrated Health (0.5)
Health Careers II (Basic Nursing Skills)	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	Integrated Anatomy and Physiology (0.5)
Legal Academy (New Visions)	-	-	-	-	-	ELA 12 (1.0) PIG / Economics (1.0) Criminal Justice (1.0) Internship (1.0)
Heating, Ventilation and Air Conditioning	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Sports Science Careers	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Video Production and Recording Arts	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Web Technologies and Game Programming	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Welding	0.5/yr	0.5/yr	0.5/yr	0.5/yr	✓	
Zoo Wildlife and Conservation Careers (New Visions)	-	-	-	-	-	ELA 12 (1.0) PIG / Economics (1.0) Internship (1.0) Zoology (1.0)

Important Notes:

- Academic credit is deducted from the 3.75 CTE credits awarded to CTE students annually.
- A 3rd Unit of Math is contingent upon students earning 2 math credits at their home district and passing the required Regents exam.
- A 3rd Unit of Science is contingent upon students earning 2 science credits at their home school and passing the required Regents exam.
- A 4th unit of English credit is contingent upon students earning 3 English credits at their home district and passing the required Regents exam.

SkillsUSA

Participation in SkillsUSA is open to all students enrolled in a Career and Technical Education program. At the local level, the club arranges various fundraisers to support community service projects and participates in various conferences and competitions at the local, state, and national level.

National Technical Honor Society

NTHS was established to honor excellence in Career and Technical Education programs. To be considered, students must demonstrate scholastic achievement and skill development in the following ways:

- Good Character, Leadership, Honor and Responsibility
- Maintain 90% Average in CTE program, 85% Average in District
- Maintain 95% Attendance
- Submission of Membership Application, Portfolio, and 2 Letters of Recommendation
- Personal Interview

Regents Diploma with a Technical Endorsement

The Technical Endorsement Seal is affixed to the high school diploma of students who complete a 2-year NYS approved Career and Technical program and meet the following requirements:

- Passing 5 required Regents exams
- Successful completion of a 3-part Technical Assessment
- Completion of work-based learning experiences
- Completion of a work-skills employability profile

Completion with Honors

A seal of Completion with Honors is affixed to the diploma of students who complete a CTE program and develop essential skills for college and the workplace.

- Completion of All Program Requirements
- Minimum 90% Program Average
- Good Attendance (no more than 10 days absent per year)
- Punctuality (no more than 10 days late per year)
- Minimum Score of 90% on Career Portfolio
- Successful Participation in a Program Internship

Job Placement

Erie 1 BOCES Work-Based Learning teachers provide assistance in preparing students with necessary job-seeking and job-keeping skills and help to assist students in meeting their career goals. Work-Based Learning teachers serve as liaisons between employers and Career and Technical Education students to ensure the right internship and/or job placement.

Work-Based Learning Experiences

A supervised work experience related to instruction in a student's CTE program is offered to enhance classroom skills, knowledge and career readiness.

Internships facilitate the transition from school to work and help to develop career competency, initiative, ability to work with others, and appropriate attitudes and behaviors. This proves advantageous for students, schools, employers, and the community as they work together to meet workplace needs.

Career Portfolios

The Career Portfolio is a purposeful collection of student work that demonstrates students' personal growth and achievement within their CTE experience. Students complete their program with a comprehensive professional career portfolio to use in their future endeavors. The portfolio requirement is a result of input from industry representatives who value this tool as a way to demonstrate communication and other work-related skills.

Employability Profiles

The Employability Profile provides a record of students' performance in program specific CTE skills and competencies needed for entry-level employment. It also includes a record of the student's performance in career related skills and provides a potential employer with a snapshot of the student's skills and competencies upon completion of his/her career and technical education program. Each profile is annually approved by the Career and Technical Education Advisory Council to reflect the most current industry standards.

ERIE 1 BOCES

NYS APPROVED CAREER AND TECHNICAL EDUCATION

PROGRAMS FOR HIGH SCHOOL STUDENTS

Harkness Career & Technical Center
99 Aero Drive, Cheektowaga, NY 14225 • 716-961-4070

AM Session	Mid Session	PM Session
7:45 - 10:00 am	10:00 - 12:15 pm	12:30 - 2:45 pm

Kenton Career & Technical Center
151 Two Mile Creek Road, Tonawanda, NY 14150 • 716-961-4010

AM Session	Mid Session	PM Session
7:45 - 10:00 am	10:05 - 12:20 pm	12:30 - 2:45 pm

Potter Career & Technical Center
705 Potters Road, West Seneca, NY 14224 • 716-821-7331

AM Session	Mid Session	PM Session
7:20 - 9:35 am	9:50 - 12:05 pm	12:15 - 2:30 pm

ANIMAL SCIENCE

NYS CIP CODE: 51.0808

Program Summary

- Practice real world diagnostics, animal restraint, grooming techniques, and assess animal vital signs in our hands-on pet clinic.
- Participate in an internship according to your individual interests at veterinary hospitals, animal training facilities, dairy farms, stables, and grooming salons.
- Meet informative industry professionals such as local wildlife rescue, rehabilitation experts, and representatives from the veterinary and animal care industry.
- Explore a variety of career opportunities including licensed veterinary technicians, laboratory animal technicians, pet grooming, and veterinary science.
- Study small animals, large animals, exotics, wildlife, and more!

College Credit Connections

- Alfred State College
- Medaille College
- Niagara County Community College
- SUNY Canton
- SUNY Erie
- SUNY Morrisville

Additional Information

- Updated tetanus vaccine required
- Students with allergies to animals should consult a physician before starting the program

Career Pathways

Professional Careers
Agricultural Careers
Animal Science Instructor
Biologist
Holistic Specialists
Marine Biologist
Pharmacology Researcher
Veterinarian
Zoologist

Technical Careers
Fisheries and Wildlife
Game Warden
Laboratory Animal Technician
Licensed Veterinary Technician
Physical Rehabilitation
Wildlife Rehabilitator

Entry Level Careers
Animal Production
Animal Shelter Worker
Groomer
Kennel Assistant
Pet Therapy
Retail
Veterinary Assistant

First Aid

- Handling, Restraint and Transportation
- CPR on Cat and Dog Manikins
- Assessment, Triage and Treatment of Emergencies
- Physical Exams and Methodologies
- Vital Ranges for Dogs and Cats
- Bandaging
- First Aid Performance

Grooming

- Nail Clipping and Ear Cleaning
- Bathing and Drying
- Scissoring and Clipping
- Identification and Care of Grooming Tools
- Client Interaction
- Records Maintenance

Surgical Nursing

- Suturing and Wound Healing
- Surgical Gloving, Gowning, and Draping
- Pharmacology and Case Studies

Clinical Skills

- Microscope
- Opthalmoscope
- Otoscope
- Stethoscope
- Parasite Identification
- Blood and Fecal Handling and Processing
- Urinalysis
- Syringe Measurements and Injections

Health and Medicine

- Anatomy and Physiology
- Nutrition for Companion Animals
- Vaccination Protocol
- Zoonotic Diseases and Risks

Husbandry and Reproduction

- Housing Requirements
- Gestation and Pregnancy
- Neonatal Care
- History of Domesticated Animals
- Feeding Requirements
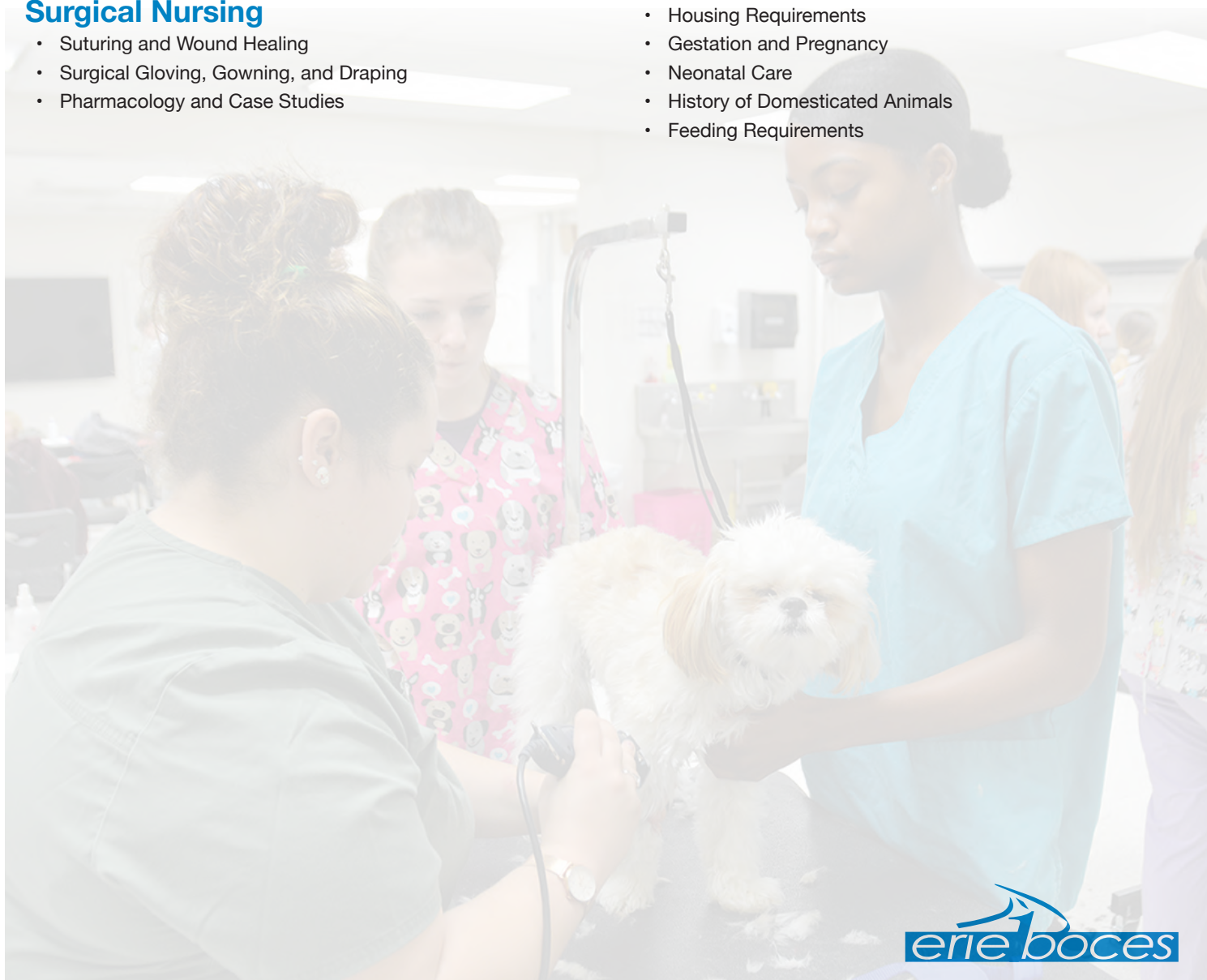
NYS CIP CODE: 47.0604

Program Summary

- Prepare to enter the auto field in a dealership, repair shop, parts facility, and more.
- Operate master level technician equipment to diagnose problems.
- Trouble shoot and repair today's modern vehicles.
- Experience real-world, web-based manufacturer service information.
- Students in this program are eligible to earn their Automobile Service Excellence (ASE) Student Certification.

College Credit Connections

- Alfred State College
- Lincoln Technical Institute
- Ohio Technical College
- SUNY Canton
- SUNY Erie
- SUNY Morrisville
- University of Northwestern Ohio

Additional Information

- Students must supply work pants, coveralls, and work boots.

Career Pathways

Professional Careers

Automotive Engineer
Automotive School Teacher
College Recruiter
Dealership General Manager
Entrepreneur
Production Manager

Technical Careers

Diesel Mechanic
Equipment Mechanic
Parts Manager
Service Manager
Technician
Tow Truck Driver

Entry Level Careers

Detailer
Lube Technician
Parts Counter Associate
Parts / Shuttle Driver
Service Writer
Tire Service Technician
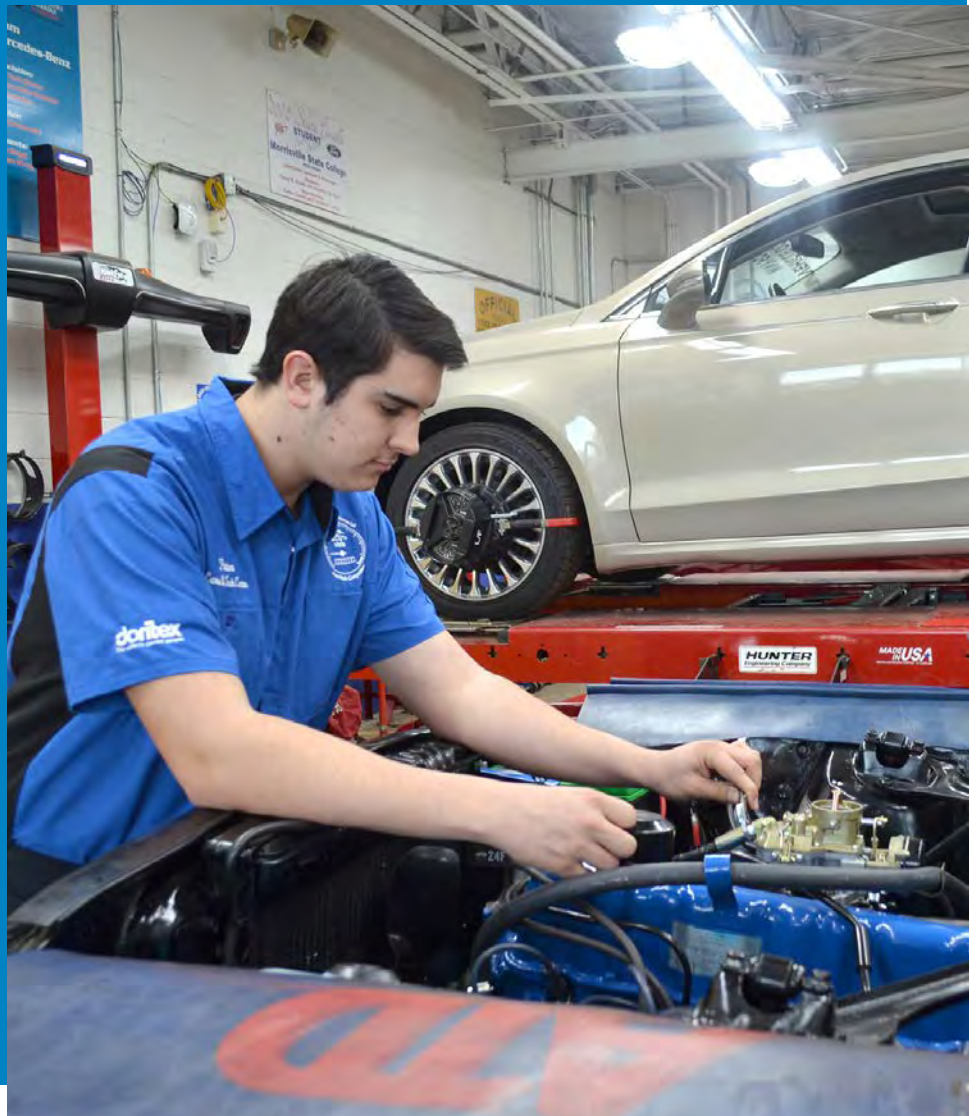
AUTO TECHNICIAN TRAINING

Engine Repair
- Assembly
- Overhaul
- Remove and Replace

Computer Diagnostics
- Scan Tool Usage
- Service Information Usage
- Computerized Alignments
- TPMS Reset Equipment
- Computerized Wheel Balance

Industry Recognized Certification
- Automotive Service Education Foundation - MLR

Local and National Competitions
- Skills USA
- ASE / Ron Smith Memorial Auto Tech Competition
- Mechanics Competition at the WNY Farm Festival
- National Automotive Technology Competition

Hands-On, Live Work Training
- School Supplied Vehicles
- Student Vehicles
- Industry Donated Vehicles and Equipment
- Work on Faculty and Privately Donated Vehicles

Brakes
- ABS Diagnostics
- Trouble Shoot
- Industry Standard Brake
- Hydraulic Brake Repair

Steering and Suspension
- Tires
- Alignment
- Live Work
- Complete Suspension Repair and Diagnosis
- Complete Steering Repair and Diagnosis

Engine Performance
- Scan Tool Usage
- Computer Diagnostic Information
- Tune Up Service
- Emission Testing and Service
- Fuel and Exhaust Systems Service

Auto Electrical
- Wire Repair
- Multi Meter Diagnostics
- Series and Parallel Circuits Diagnostics and Repair
- Vehicle Accessory Installation
- Starting and Charging System Diagnostics and Repair

HVAC
- A/C Component Identification
- A/C Theory and Operation

Now Offering A Pre-Apprentice Experience!
✓ **Job Shadowing**
✓ **Paid Summer Internships**
✓ **Guaranteed Job Interviews**

NYS CIP CODE: 49.0101

Program Summary

- Do you want to become the next NASA astronaut or engineer?
- Experience flight by hands-on operation of a Piper Warrior and take off with a licensed pilot as your teacher.
- Experience maintenance procedures with the aircraft in class.
- Create, develop, and test modifications to aircraft designs in an engineering exploration style.
- Conceptualize unmanned technology and understand applications to current technology.

College Credit Connections

- Edinboro University
- Mohawk Valley Community College

Additional Information

- Students are required to have completed 2 credits in Regents level math and 2 credits in Regents level science upon entering this program.
- Additional requirements necessary for FAA license tests.

Career Pathways

Professional Careers

Aerospace Engineer
Aerospace Financial Analyst
Air Traffic Controller
Airline Manager
Airport Manager
Aviation Professional Pilot
FAA
Government Employee
NTSB
Test Pilot
Unmanned Aerial Systems

Technical Careers

Airline Flight Attendant
Certified Flight Instructor
Corporate Pilot
Maintenance Technician
Military / National Guard / Reserves
TSA
Unmanned Technical Support Staff

Entry Level Careers

Airline Baggage Handler
Airline Fueler
Aviation Mechanic In-Training
Cargo Handler
Ground Service Staff
Ramp Agent
Ticket Agent

AVIATION TECHNOLOGY

Aviation History and Evaluation

- History of Aviation
- Aircraft Types
- New Technology in Aviation
- Federal Regulations
- Research and Development

Flight Principles, Systems and Performance

- Aerodynamics
- Flight Controls
- Airframes / Power Plants
- Weight and Balance

Navigation and Aviation Weather

- Pilotage
- Ground and Space Based Navigation
- Aviation Meteorology
- Weather Reports and Interpretation
- Current and Emerging Issues

Aeromedical Factors

- Aviation Physiology
- Decision Making Process
- Human Factors
- Accident Prevention and Investigation
- Current and Emerging Issues

Piloting Skills

- Pre Flight
- Ground Operations
- Aviation Meteorology
- Weather Reports and Interpretation
- National Aerospace System

Unmanned Aerial Vehicles

- Systems Integration
- Flight Performance
- License Requirements
- Certification

Careers in Aviation

- Airline Pilots
- Mechanics (Airframe and Powerplants)
- Corporate Pilots
- Ground Crews
- Engineers
- Air Traffic Controllers

Aerospace Engineering

- Aircraft Design
- Manufacture Aerospace Vehicles
- Control Systems Integration
- Engineering Process
- Solve Problems with Creative Solutions

erie boces

NYS CIP CODE: 12.0501

Program Summary

- Baking and Pastry Arts offers students an opportunity to understand what goes into creating beautiful finished pastries, breads, and cakes.
- Students will not only produce baked goods in both large and small quantities, but understand the science behind them.
- Create beautiful show pieces, plated desserts, chocolates, and individual pastries in extensive hands-on classes.
- If you dream of opening your own bakery or stylish café, creating, and styling spectacular cakes or preparing desserts for elegant events, a career in pastry arts is for you!
- This program is certified by the American Culinary Federation (ACF).

College Credit Connections

- Niagara County Community College (ACF Accredited)
- SUNY Erie (ACF Accredited)

Additional Information

- Students are required to wear a professional uniform in class.
- Graduates recieve a certificate that they attended an American Culinary Federation Accredited (ACF) Program and a Junior Culinarian certificate.

Career Pathways

Professional Careers

Bake Shop Manager
Event Planner
Executive Pastry Chef
Food Writer
Hospitality Management

Technical Careers

Artisan Bread Baker
Chocolatier
Commercial Baker
Food Stylist
Pastry Chef
Retail Bakery Owner
Specialty Cake Designer

Entry Level Careers

Bakery Assistant
Bread Baker
Cake Decorator
Pastry Cook
Retail Baker

Baking and Pastry Arts I

- Cookies
- Quick Breads
- Cream Puff Paste Products
- Introduction to Pies and Tarts
- Holiday Baking
- Gingerbread Project
- Yeast Dough
- Introduction to Chocolate
- Breakfast Pastries
- Cakes and Icings
- Bistro-Style Cooking
- Professional Portfolio
- Retail Bake Shop

Baking and Pastry Arts II

- Advanced Cookies
- Cupcake Wars
- Advanced Pies and Tarts
- Pate Choux
- ServSafe Certification
- Gingerbread Competition
- Internship
- Advanced Cakes and Frostings
- Sugar and Confectionery Techniques
- Laminated Dough
- Artisan Breads
- Frozen Desserts
- Plated Desserts

**Pastry Chef Tina Fago**
Instructor, Harkness Career Center
Chef Fago, graduate of the Culinary Institute of America, received a degree in Culinary Arts. She has experience working in both restaurants and bakeries and has participated and placed in several gingerbread competitions.

Pastry Chef Meg Schaller
Instructor, Kenton Career Center
Chef Schaller, graduate of the Culinary Institute of America, has a degree in Baking and Pastry Management. She recently wrote and published, "Become a Candy Maker at Home", a book aimed at teaching home candy makers how to create professional looking treats.

ACF

**American Culinary Federation
Education Foundation**

erie boces
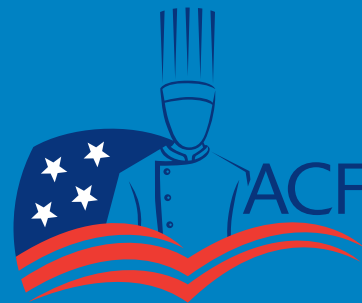
NYS CIP CODE: 12.0402

Program Summary

- Leave your mark on the ever changing world of fashion and beauty!
- Prepare for the NYS Master Barber's licensing exam.
- Cut, color, and style male and female clients.
- Choose the work environment that suits you best!
- Learn to communicate effectively with clients and colleagues.
- Master Barbers participate in national organizations and trade shows and many compete in barbering competitions.

College Credit Connections

- Bryant and Stratton College
- Erie 1 BOCES Workforce Development

Additional Information

- Students are required to purchase a Barber Kit and uniform.
- Additional steps are necessary for NYS licensing.
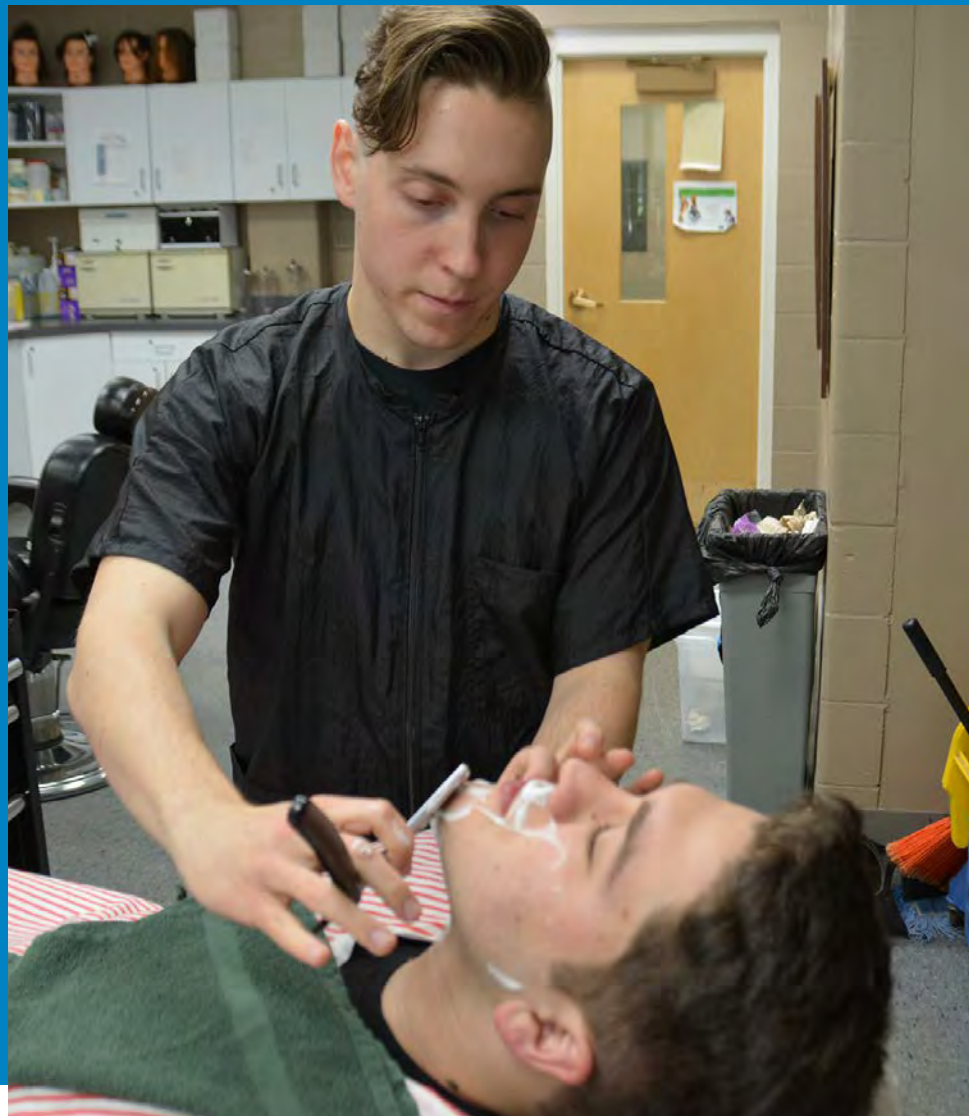
Career Pathways

Professional Careers
Barber Instructor
Cosmetic Chemist
Product Educator

Technical Careers
Barber Shop Owner
Master Barber
Platform Artist
Product Representative
Trade Show Organizer

Entry Level Careers
Assistant
Barber Apprentice
Receptionist
Sales Representative

The Science of Barbering

- Microbiology
- Infection Control
- Safe Work Practices
- Implements, Tools and Equipment
- Anatomy and Physiology
- Chemistry and Barbering
- Electricity and Barbering
- Properties and Disorders of the Skin and Scalp

Clipper Cutting

- Clipper - Over - Comb
- Zero Degree and Up Fades
- Edge Ups
- Design Lines with Trimmers

Shear Cutting

- 0 Degree Haircut
- 90 Degree Haircut
- 45 Degree Haircut
- 180 Degree Haircut
- Shear Over Comb
- Point Cutting

New York State Board Procedures

- Packing Your Kit and Supplies
- Ideal Live Model Candidates
- Proper Sanitation and Disinfection Technique
- State Board Haircut
- State Board Facial

School Barber Shop

- Client Consultations
- Execution of Services
- Communicating Effectively with a Client

Mustache and Beard Design

- Proper Strokes and Direction
- Designed Facial Hair

Professional Barbering

- Men's Facial Massage
- Shaving and Facial Hair Design
- Basic Principles of Haircutting
- Long and Short Hair Design
- Clipper Cutting
- Basic Tapers
- Line Ups
- Texturizing Techniques
- Blending Techniques
- Men's Hair Replacement
- Women's Hair Design and Style

Hair Coloring and Lightening

- Basic Hair Color Applications
- Color Theory and Terminology
- Special Effects Hair Coloring
- Coloring Mustaches and Beards

The Business of Barbering

- State Board Preparation
- Job Search
- Shop Management

erie boces

NYS CIP CODE: 46.9999

Program Summary

- Develop, design and construct various structures using 21st century tools, and technology.
- Gain skills and certificates that allow you to be employed anywhere in North America.
- Develop skills necessary to use and operate the same tools a master carpenter.
- Experience and manage real life construction projects.
- Discover a variety of careers in the building trades to help make smarter career decisions for your future.

College Credit Connections

- Alfred State College
- SUNY Erie
- SUNY Morrisville

Additional Information

- Students are responsible for purchasing work boots and basic hand tools.

Career Pathways

Professional Careers
Architect
Building Inspector
Company Owner
Engineer
Foreman / Superintendent
Project Manager in Construction

Technical Careers
Carpenter
Drafter
Heavy Equipment Operator
Home Energy Auditor
Home Inspector
Mason
Surveyor

Entry Level Careers
Construction Laborer
Drywall Installer
Flooring Installer
Painter
Roofer / Sider
Union Apprentice

Construction Safety

- OSHA Compliance
- OSHA 10 Certification
- Ladder, Scaffold Safety
- Safe Tool Use
- Jobsite Safety

Hand and Power Tools

- Proper Use
- Repair and Maintenance
- Safe Handling and Storage

Rough Carpentry

- Frame Floors and Walls
- Cut Roof Rafters
- Learn Different Home Building Techniques

Electrical and Plumbing

- Gain Knowledge and Understanding of Different Careers
- Learn Basic Skills for Future Projects and Applications

Finish Carpentry

- Trim
- Flooring
- Drywall
- Fine Woodworking

Common Structures

- Estimating
- Print Reading
- Energy Efficiency
- Interior and Exterior Finishes

NYS CIP CODE: 47.0603

Pre-Apprentice Partnership

- WNY needs more qualified collision repair technicians!
- Collision Repair students will participate in a 4-week job shadowing experience at a partnering location during their Junior and Senior years.
- Paid internships are available throughout the summer.
- Upon graduation, students are guaranteed a job interview for applicable openings.
- Apprenticeship opportunities are available to successful graduates.

College Credit Connections

- Alfred State College
- Lincoln Technical Institute
- Ohio Technical College
- SUNY Erie
- SUNY Morrisville
- Universal Technical Institute

Additional Information

- This program aligns with I-CAR curriculum and standards.
- Students will work toward I-CAR industry Non-Structural Technician and Refinish Technician certifications.
- Students are responsible for purchasing work pants, coveralls, and work boots.

Career Pathways

Professional Careers
Shop Owner / Manager
Teacher

Technical Careers
"A" or "B" Level Technician
Estimator
Painter

Entry Level Careers
"C" Level Technician
Detailer
Tear Down / Dismantler
Vehicle Preparation

COLLISION REPAIR

Auto Technology Core
- Orientation
- Introduction to Technology
- Introduction to Hardware
- Safety
- Hand Tools
- Power Tools
- Lifts and Jacks
- Lubrication
- Introduction to Cooling Systems
- Introduction to Detailing
- Welding and Cutting
- Introduction to Electrical Systems
- Leadership
- Wheels and Tires

Detailing
- Tools and Equipment
- Safety
- Detailing Before Collision Repair
- Detailing After Collision Repair
- Independent Detailer
- Auto Dealership Detailer
- Internships

Non-Structural Repair
- Damage Repair and Estimating
- Sheet Metal Repair and Roughout
- Plastic Body Filler
- Panel Replacement
- Bumpers and Plastic Repair
- Corrosion Protection
- Measure System and Damage Analysis

Metal Inert Gas Welding (MIG)
- Introduction to MIG Welding
- MIG Welding Equipment and Techniques
- Constructing MIG Welds
- Welding Aluminum
- Resistance Spot Welding

Painting and Refinishing
- Introduction to Painting and Refinishing
- Equipment and Safety
- Spraying Techniques
- Surface Preparation and Undercoats

Advanced Painting and Refinishing
- Equipment and Safety
- Spraying Techniques
- Surface Preparation and Undercoats
- Introduction to Top Coats
- Introduction to Base Coats and Clear Coats

Specialty Painting
- Top Coats
- Tri-coats and Refinishing
- Typical Paint Problems
- Custom Paint
- Airbrushing

**Now Offering A
Pre-Apprentice Experience!**
✓ **Job Shadowing**
✓ **Paid Summer Internships**
✓ **Guaranteed Job Interviews**

erie boces

COSMETOLOGY

NYS CIP CODE: 12.0401

Program Summary

- Do you want to change people's lives and make them feel good about themselves?
- As a cosmetologist, you will have the luxury to choose which work environment suits you best.
- The cosmetologist is an outgoing person with a flair for creativity.
- Today's beauty professional is a member of the expanding and ever changing world of fashion and design.
- If you are innovative and ambitious, there is no limit to your potential!

College Credit Connections

- Bryant and Stratton College
- Erie 1 BOCES Workforce Development

Additional Information

- Students are responsible for purchasing a Cosmetology Kit and uniform.
- Additional steps are necessary for NYS licensing.

Career Pathways

Professional Careers
Artistic Director for Salons or Brands
Celebrity or Personal Stylist
Cosmetology School Teacher
Franchise Owner or Manager
State Board Examiner
Trade Publication Writer

Technical Careers
Editorial or Advertising Stylist
Hair Color Specialist
Makeup Artist
Platform Artist
Salon or Spa Owner or Manager
Salon Stylist
Stylist for Film and Theater

Entry Level Careers
Assistant Stylist
Cosmetic Sales
Fashion or Cosmetic Retail Sales
Marketing and Merchandising
Salon Receptionist

COSMETOLOGY

Hair Color
- Dimensional Hair Color Using Foils
- Permanent and Semi-Permanent Hair Coloring Products
- Color Consultations and Analysis
- Color Formulation and Application
- Highlighting and Lowlighting Techniques
- Hair Color Correction

Hair Cutting
- Basic and Advanced Hair Cutting Procedures
- Texturizing Hair Using Scissors
- Clipper Cutting
- Cuts for Men, Women and Children

Hair Design
- Braiding
- Updos and Special Occasion Designs
- Finger Wave Designs
- Pin Curl Sets and Styling
- Methods of Extensions
- Temporary and Permanent Hair Straightening

Nail Care
- Manicures (Natural)
- Pedicures
- Nail Care
- Nail Art and Enhancements

Skin Care
- Foundational Skin Care
- Skin Tone Analysis and Consultation
- Facials and Massage
- Spa Techniques
- Makeup Applications

State Exam Preparation
- Salon Operations
- Review of NYS Licensing Procedures
- Presentation of Portfolios

erie boces

NYS CIP CODE: 43.0107

Program Summary

- Network and interact with criminal justice professionals at the local, county, state, and federal agencies. This includes guest speakers, field trips and internships.
- Graduate from the program with the traits needed to be a criminal justice professional, including discipline, integrity, and professionalism.
- Develop a career plan for your area of interest, including college, and career planning.

College Credit Connections

- Bryant and Stratton College
- Canisius College
- Hilbert College
- Medaille College
- Niagara County Community College
- Niagara University
- SUNY Canton
- SUNY Erie

Career Pathways

Professional Careers
ATFE
CIA
DEA
FBI
Lawyer
Parole Officer
Probation Officer
U.S. Marshal

Technical Careers
Border Patrol
DEC
Emergency Medical Technician
Municipal Police
NFTA
Park Police
State Police
Uniform Division Secret Service
Paralegal

Entry Level Careers
Armored Car Delivery Service
Corrections Officer
Loss Prevention
Private Security
Military Police
TSA

CRIMINAL JUSTICE

Emergency Response
- AED
- Advanced First Aid
- Adult / Child / Infant CPR AED

Police Practical Skills
- Handcuffing
- Body / Building Search
- Auto Felony Stop
- Field Sobriety
- Self Defense

Career Development
- Civil Service Testing
- Police Physical Fitness
- NYS Security Officer Certification

Criminal Investigations and Forensics
- Evidence Preservation and Collection
- Recording the Crime Scene
- Analysis of Evidence

Criminal Minds
- Violent Crime
- Serial Spree and Mass Murder
- Why People Commit Crime

Courts and Corrections
- Mock Trials
- Pre Trial Procedures
- Probation
- Punishment and Sentencing
- Prison and Jails

CULINARY ARTS

NYS CIP CODE: 12.0599

Program Summary

- Work in a high energy, fast paced environment.
- Learn about the latest food trends.
- Create and taste new and exciting foods!
- Prepare food for actual catered affairs.
- Experience Work Based Learning at leading restaurants, country clubs, and corporations.
- Employment opportunities while enrolled in the program, EARN WHILE YOU LEARN!
- This program is certified by the American Culinary Federation (ACF).

College Credit Connections

- Alfred State College
- Culinary Institute of America (ACF Accredited)
- Niagara County Community College (ACF Accredited)
- SUNY Erie
- Trocaire College

Additional Information

- Graduates receive a certificate that they attended and American Culinary Federation Accredited (ACF) program and a Certified Fundamentals Cook (CFC) designation.
- Students are required to wear a professional uniform.

Career Pathways

Professional Careers
Banquet Manager
Cookbook Editor
Culinary Arts Instructor
Culinary Journalist
Food Chemist
Food Research and Development Chef
Food Stylist
Head Chef
Restaurant Owner

Technical Careers
Banquet Facility Manager
Chef
Food / Equipment Sales
Health Care Chef
Health Inspector
Line Cook
Restaurant Manager
Sous Chef

Entry Level Careers
Customer Service Representative
Food Service Representative
Hospitality Service Worker
Host / Hostess
Prep Cook
Sanitation Assistant
Wait Person

Culinary Basics
- Professionalism
- Chef Uniform
- Career Opportunities

Safety and Sanitation
- Foodborne Illness
- Equipment Management
- Receiving and Storage of Food

Knives and Small Equipment
- Safety and Storage
- Proper Handling and Sharpening
- Culinary Terms and Knife Cuts
- Mise en Place

Stocks, Soups, and Sauces
- Prepare Stocks Using Fresh Ingredients
- Soups made from Scratch
- Learn and Prepare the 5 Mother Sauces with Accompaniments

Quickbreads
- Measurement Fundamentals
- Baking Equipment Usage
- Cookies
- Muffins
- Biscuits and Scones

Garde Manger (Cold Food Preparation)
- Salads and Dressings
- Cold Appetizers
- Sandwiches
- Vegetable, Herb and Spice Identification

Starches
- Potatoes
- Pasta
- Rice
- Grains

Cakes and Pies
- Frostings
- Decorating Basics
- Crust Production
- Pie Fillings

Yeast Doughs
- Breads and Rolls
- Pizza

Breakfast
- Egg Cooking Techniques
- Meats
- Breakfast Breads

Poultry
- Chicken and Turkey
- Variety of Cooking Methods
- Fabrication Techniques
- Safe Cooking and Handling Procedures

Meat
- Beef, Pork, Lamb, and Veal
- Variety of Cooking Methods
- Fabrication Techniques
- Safe Cooking and Handling Procedures

Fish and Seafood
- Fish Selections, Shrimp, Clams, and Oysters
- Variety of Cooking Methods
- Fabrication Techniques
- Safe Cooking and Handling Procedures

Front of the House
- In School and Community Catering Functions
- Large Quantity Cooking
- Service Basics

FAQ's
- 4 out of 5 Days a Week are Spent Cooking in the Kitchen
- 1 Day a Week Learning Theory
- 60 Hours of Work Based Learning Experience (Culinary Arts II)
- Multiple Occasions for Community Service Work
- Employment Opportunities

**American Culinary Federation
Education Foundation**

ACF

erie boces

CYBERSECURITY & NETWORKING

NYS CIP CODE: 11.1002

Program Summary

- Use the latest software to analyze data traffic on a network.
- Design computer networks, program routers, and switches.
- Troubleshoot PC hardware and operating systems.
- Get industry standard Network+ and Cisco CCNA certifications while still in high school.

College Credit Connections

- Alfred State College
- SUNY Canton
- SUNY Erie
- Trocaire College

Additional Information

- Graduates are eligble to take the Cisco Certified Network Associate (CCNA) certification licensing exam as well as the Comptia A+, Network+, and Security+ certifications.

Career Pathways

Professional Careers

Cyber Threat Analyst
Ethical Hacker
Penetrating Tester
Security Administrator
Security Engineer
Vulnerability Assessor

Technical Careers

Local Area Network Administrator
Network Security Technician
Network Software Support
Network Systems Engineer
Specialist

Entry Level Careers

CERT Member
Computer Repair Technician
Help Desk Technician
Law Enforcement
Network Installation Technician
Network Support Specialist
Technician
Telecommunications Technician
Wiring and Cabling Installation

Digital Forensics

- Analyze Computer Data and Hardware for Evidence Collection and Criminal Prosecution

Wireshark

- Analyze Network Traffic to Identify Vulnerabilities and Monitor Network Activity

Back Track and Kali Utilities

- Utilize Suite of Utilities to Find Flaws in Network Security

Intro to Network Security

- Design and Build Networks Using the Latest Tools to Analyze and Enhance Network Security

Cyber Terrorism

- Research Ethics and Morals in Relation to Cyber Attacks on Society and the Mentality of a Cyberterrorist

Firewall Configuration

- Configure Hardware Firewalls from Various Vendors for Added Network Security

Wireless Configuration

- Configure and Setup Secure Wireless Devices for Home and Business

Steganography

- Use Various Programs to Hide Data Within Pictures, Videos and Music Files

DENTAL LABORATORY TECHNOLOGY

NYS CIP CODE: 51.0603

Program Summary

- It's an exciting time to enter the dental field with new digital techniques, materials, and equipment!
- Dental laboratory technology is the art and science of the fabrication of corrective devices and replacements for natural teeth.
- Learn five specialties of dental laboratory technology: complete denture, partial denture, crown and bridge restoration, porcelain and ceramics and orthodontics.
- A combination of science, art, skill and craftsmanship along with a complete comprehension of basic techniques, materials, anatomy and terminology will enable the students to fabricate an appliance from beginning to end.

College Credit Connections

- SUNY Erie

Additional Information

- Students are responsible for purchasing a lab coat.

Career Pathways

Professional Careers
Dentist
Oral Surgeon
Orthodontist

Technical Careers
Dental Hygienist
Dental Lab Technician
Research and Development

Entry Level Careers
Dental Assistant
Dental Office
Dental Supply Company

DENTAL LABORATORY TECHNOLOGY

Intro to Dental Lab, Anatomy, and Terminology

- SkillsUSA
- Laboratory Safety
- Oral Anatomy
- OSHA - Infection Control
- Tooth Morphology
- Dental Terminology

Complete Dentures

- All Phases of Complete Dentures
- Denture Repairs
- Denture Border Anatomy
- Interim Partial / Flipper
- Interim Denture / Jiffy Denture
- Introduction to Orthodontics

Orthodontics and Restorations

- Orthodontic Appliances
- Hawley Retainers
- Two Pour Models
- Crown and Bridge Restorations
- Waxing Inlays and Onlays
- Investing and Casting Inlays and Onlays
- Finishing / Polishing
- Temporary Crown
- Full Cast Gold Crown

Restorations and Partial Denture Framework

- Crown and Bridge Restorations
- Waxing 3-Unit Bridge
- Investing / Casting
- Finishing / Polishing
- Partial Denture Frameworks
- Introduction to Dental Laboratory Porcelains
- Introduction to Porcelain Fused to Metal

Dental and Oral Anatomy

- Dental Anatomy
- Oral Anatomy
- Complete Dentures II
- Characterization
- Light Curing Materials
- Success Injection System

Complete Denture II

- Complete Dentures II
- Immediate Dentures
- Reline and Rebases
- Intro to Dental Implants
- Orthodontics II
- Soldering
- Removable Alignment Appliance
- Custom Mouth Guards
- Bleaching Trays

Ceramics and Orthodontics

- Crown and Bridge
- Disposable Articulation System
- Single Tray Impression System
- Waxing Copings
- Induction Casting
- Lite-Cast Coping
- Preparation of Coping
- Ceramics / Porcelain

Shape Digital Design/Scanning and Milling

- Ceramics
- Addition of Porcelain
- Cosmetic Dentistry
- Intro to CAD / CAM
- Professional Interview
- Internship (3 Weeks on Site)
- 3 Shape Digital Design / Scanning and Zirconia Milling System

Great Lakes
DENTAL TECHNOLOGIES
GREAT PEOPLE · GREAT PRODUCTS · GREAT LAKES

erie boces

NYS CIP CODE: 09.0702

Program Summary

- Create impressive graphics, stunning video, and eye-popping animation alongside industry professionals.
- Develop design skills for digital screens and print layouts, YouTube videos, photography, and animation.
- Operate software and hardware used by today's digital media workforce.

College Credit Connections

- Canisius College
- Hilbert College
- Medaille College
- Mohawk Valley Community College
- Niagara County Community College
- Villa Maria College

Career Pathways

Professional Careers
Animator
Digital Media Specialist
Graphic Designer
Illustrator
Package Designer
Photographer
Production Manager
Video Producer
YouTube/Social Media Content Producer

Technical Careers
Advertising Copywriter
Associate Media Producer
Digital Artist
Event Manager
Layout Designer
Multimedia Editor

Entry Level Careers
Assistant Copywriter
Assistant Layout Designer
Event Coordinator
Film Grip
Production Assistant

Photoshop

- Understanding Raster Images
- Starting a Project / Program Interface
- Working in Layers
- Selection / Move / Crop Tools
- Scaling / Skewing / Rotating: Free Transform
- Filters and Effects
- Working with Text

Digital Photography

- Basic DSLR Operation
- Lighting for Photography
- Framing and Composition
- Video Recording

Premiere Pro

- File Management
- Capturing and Importing Files
- Editing: Insert, Overwrite, Roll, Ripple
- Composite Video / Creating Titles
- Transitions / Effects / Coloring
- Editing Audio / Recording Voiceovers
- Exporting Client Ready Files

Sound Design

- Multitrack Recording in Audition
- Recording Foley and ADR
- Layering Sound Effects

Project Examples (Year 1)

- Movie / Concert Poster
- Magazine Layout
- Photo Restoration
- Printing and Mounting Work for Display
- Mini Documentary / Interview
- Product Commercial
- Short Film Production
- Animatic Production

Illustrator

- Understanding Vector Graphics
- Program Interface / Working with Documents
- Selecting and Transforming Objects
- Working with Paths
- Fills and Strokes
- Creating Shapes
- Using Type
- Drawing with Digital Tablets
- Exporting Client Ready Files
- Working with Color: RGB vs CMYK
- Typography
- Printing Vector Graphics

Animate

- Setting Up Project / Interface / Import Files
- Working within a Timeline and Frame Rates
- Frames and Key Frames
- Drawing Shapes / Using Symbols
- Applying Motion Tweens
- Inverse Kinematics: Bone Systems
- Using Effects / Masks / Text
- Incorporating Audio and Video
- Publishing Client Ready Files

Project Examples (Year 2)

- Logo Design
- Package Design and Construction
- Creating a Font
- T-Shirt Design
- Animated Logos
- Animated Web Banners
- Titles for Video and Film
- Character Animation
- Digital Portfolio

EARLY CHILDHOOD EDUCATION

NYS CIP CODE: 19.0709

Program Summary

- Work side-by-side with a certified teacher in a daycare or elementary classroom.
- Participate in work-based learning experiences with the YMCA, Children's Hospital, the Buffalo Zoo, UB Childcare and more.
- Create and teach your own lessons in a preschool program run right out of our school.
- Re-experience the fun of your early childhood years through art, music, and storytelling.

College Credit Connections

- Herkimer County Community College
- Medaille College
- Niagara County Community College
- SUNY Canton
- SUNY Erie

Additional Information

- Current physical and PPD required.
- This program is eligible for post-secondary dual enrollment opportunities.

Career Pathways

Professional Careers
Child Life Specialist
Child Psychologist
Children's Librarian
Elementary School Teacher
Office of Child and Family Services
Pediatric Nurse or Pediatrician
Play Therapists
School Administrator
Social Worker
Speech and Language Pathologist

Technical Careers
Children's Author
Children's Museum Educator
Day Care Director / Owner
Lead Teacher - Daycare
Teacher Aide

Entry Level Careers
Before / After School Care
Coach
Dance Instructor
Nanny
Preschool Aide
Recreation Programs

EARLY CHILDHOOD EDUCATION

Intro to Early Childhood Education
- Opportunities in Early Childhood
- Your Role in Careers with Children

Using Technology
- Educational Apps
- Photography in the Classroom

Literature
- Methods of Storytelling
- Choosing Children's Books
- Children's Authors

Health and Safety
- Guidelines for Promoting Children's Safety
- Health Guidelines for Working with Children
- Indicators of Child Abuse
- Special Health Concerns

Guidance and Discipline
- Direct and Indirect Guidance
- Appropriate Social-Emotional Skills

Curriculum
- Daily Routines
- Program Goals
- Use of Themes
- Choosing DAP Activities
- Block Plans/Lesson Plans

Brain Development
- Brain Development
- Developmental Theorists

Birth to School Age
- Physical, Social-Emotional, and Intellectual Development
- Appropriate Teaching Materials
- Special Concerns

Music and Art
- Music and Movement Activities
- Music and Language Skills
- Art and Sensory Experiences
- Stages of Art Development

Math and Number Readiness
- Math and Number Readiness
- Assessing Math Readiness
- Math Learning Centers

Science
- Science Themes
- Experiments
- Science Learning Centers

Value of Play
- Guiding Play and Puppetry Experiences
- Stages of Play
- Planning for Dramatic Play

Children with Special Needs
- Caring for Children with Special Needs
- IEP (Individualized Education Plans)
- Careers in Support Services (OT, PT and Speech)

Social Studies
- Diversity in Our Community
- Multicultural and Multigenerational Families
- Field Trip Experiences
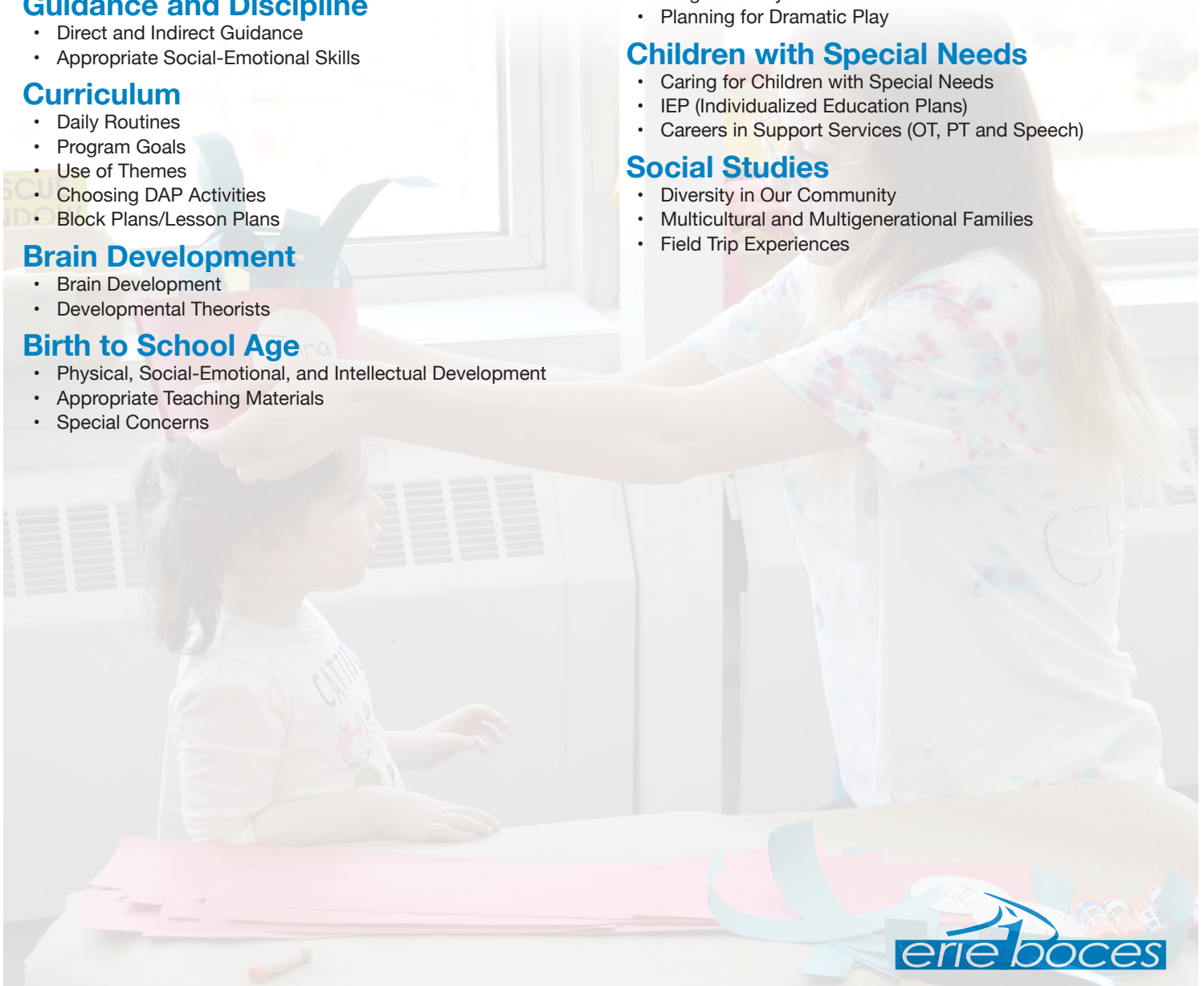
NYS CIP CODE: 46.0302

Program Summary

- This program focuses on the importance of safety, theory, and application of all facets of the electrical industry.
- Students have the opportunity to complete a 30-hour internship with electricians in the field.
- Students will learn the codes associated with the electrical industry.
- Solar and wind technology is an emphasis of this program.

College Credit Connections

- Alfred State College
- Lincoln Technical Institute
- SUNY Erie

Additional Information

- Boots or safety shoes are required for this program.

Career Pathways

Professional Careers

Electrical Construction &
    Maintenance Management
Electrical Engineer
Electrical Inspector
Maintenance Technician
Solar Technician (Photovoltaics)
Utility Scale Worker
Wind Turbine Technician

Technical Careers

Audio Service Technician
Automotive Electrician
Commercial Electrician
Electrical Sales Representative
Residential Electrician

Entry Level Careers

Apprentice
Electrician Helper

The Basics
- Electrical Safety
- Trade Measurements
- Hand Tools
- Technical Calculations
- Basic Equipment and Procedures
- Wiring Methods

Electrical Circuits I
- Power Calculations
- Specialized Tools and Equipment
- Circuit Fundamentals
- Magnetism
- Raceways and Fittings

Electrical Circuits II
- Combination Circuits
- Trouble Shooting Methods
- Electrical Testing
- Cable
- Proper Enclosure Installation
- Ohm's Law

Residential and Blue Print Reading
- Electrical Construction Drawings
- Overcurrent Protection
- Lighting
- Residential Service Installations
- Load Center Calculations
- Commercial and Industrial Services

A/C Theory
- Single / Three Phase Distribution
- Transformers
- A/C Theory
- OSHA 10 Safety Certification

Motor Controls
- Conductor Terminations and Splices
- Control Circuit Fundamentals
- Motor Controls
- Motor Theory and Application

Renewable Technologies
- Renewable Energy
- Photovoltaic Systems
- Wind Technology
- Battery Technology
- Inverters and Application

Control Systems and Internships
- Circuit Breakers and Fuses - Calculations and Applications
- Three Phase Motors
- Contractors and Motor Starters
- Financial Literacy
- Internship

ELECTRONICS & COMPUTER TECHNOLOGY
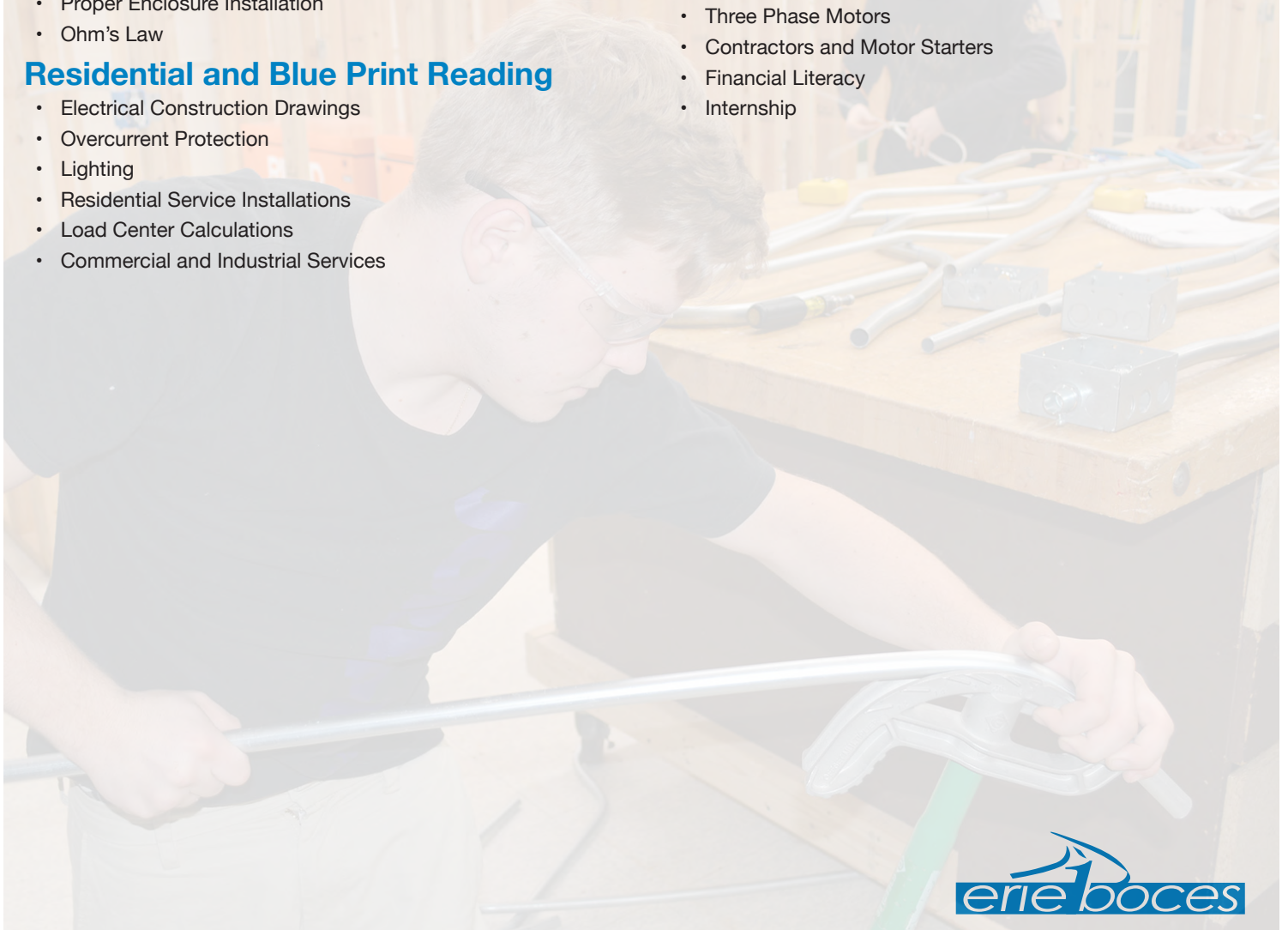
NYS CIP CODE: 47.0104

Program Summary

- Do you want to learn about the latest technology in personal computing, cellular communications, HDTV, virtual reality, Bluetooth, game machines, and car audio / video systems?
- Use soldering irons, hand tools, meters, and oscilloscopes to build computers, robots, amplifiers, speakers, wireless devices, power supplies, and other "high tech" projects.
- Can you picture yourself working with...
  - ✓ Personal and high performance gaming computers?
  - ✓ Robots on a factory production floor?
  - ✓ Drone planes for the government?
  - ✓ X-ray machines, MRI, and CAT scanners in a medical facility?
  - ✓ Cellular and fiber optic communications networks?
  - ✓ Sound, lighting, and special effects equipment on a major concert tour?

College Credit Connections

- Bryant and Stratton College
- SUNY Canton
- SUNY Erie

Additional Information

- Students are eligible to take the Federal Communications Commission (FCC) certification exam upon successful completion of this program.

Career Pathways

Professional Careers
Biomedical Engineer
Computer Engineer
Design & Test Engineer
Digital or RF Circuit Engineer
Electrical Engineer
Electrical Power Engineer
Robotics Engineer
Sales Engineer
Software Engineer

Technical Careers
Audio - Video Equipment Installer
Avionics Technician
Broadcast Electronics Technician
Electro - Mechanical Technician
Electronics Technician
Medical Electronics Technician /
   Equipment Repairer
Repairer
Robotics Technician

Entry Level Careers
Cable Television Technician
Electronic Sales Representative
Electronics Assembler
Electronics Bench Tester
Satellite Systems Technician
Security Alarm Installer
Solar Panel Installer
Telecommunications Installer

ELECTRONICS & COMPUTER TECHNOLOGY
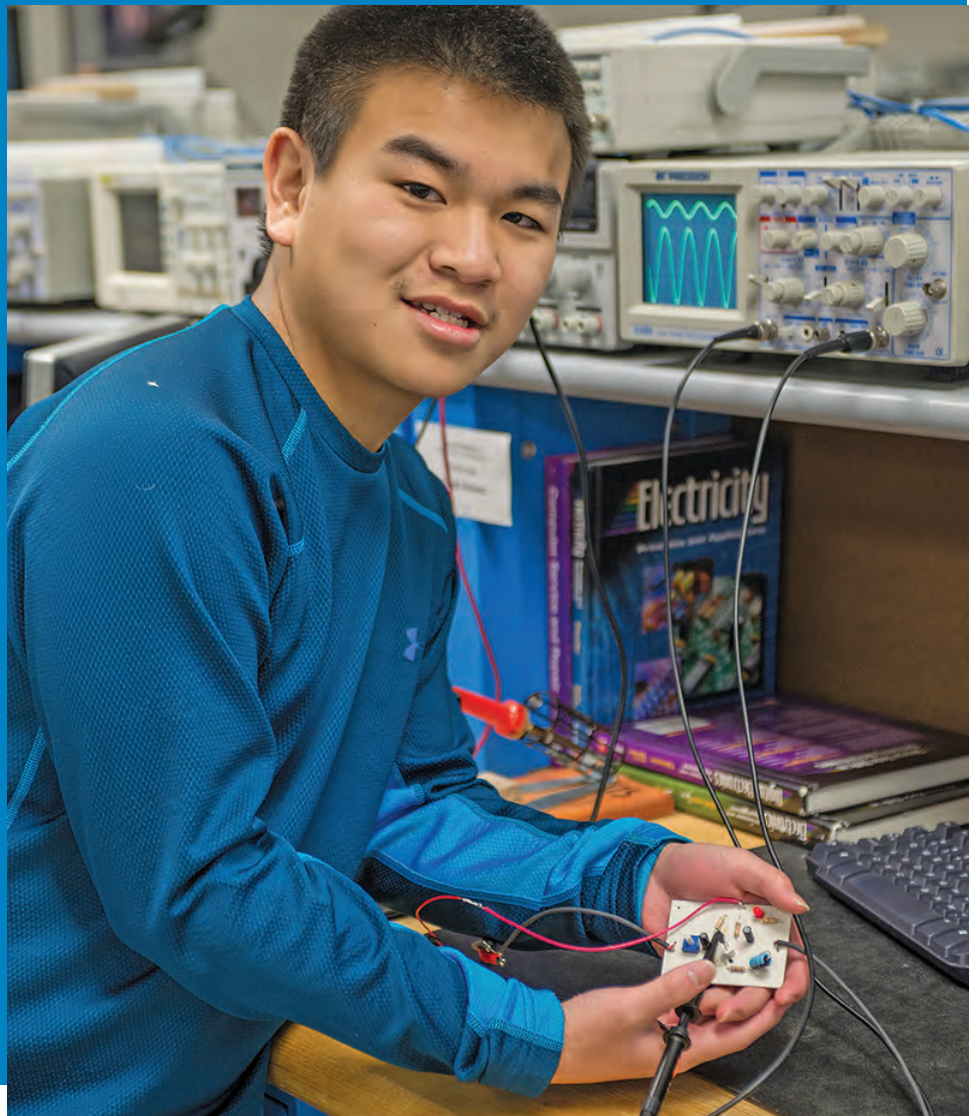
Microcomputer Systems

- I/O Peripheral Devices
- Central Processing Unit (CPU), Motherboard and Chip Sets
- RAM, ROM, BIOS, Magnetic and Optical Memory
- Power Supply Operation, Testing and Wattage
- Operating Systems (OS) Software Installation and Upgrades
- Processor Installation, Clock Speed, Overclocking and Cooling

Amplification

- Gain and Frequency Response
- Bandwidth and Decibels
- Small Signal Amplifiers (Preamplifiers)
- Large Signal Amplifiers (Power Amplifiers)
- Amplifier Construction, Testing Troubleshooting and Repair
- Car and Home Theater Audio Systems

Digital Electronics

- Binary Number System
- Logic Gates, Boolean Algebra and Combinational Logic
- ASCII Code, Short Message Service (SMS)
- Text Message Protocol
- Counters, Registers and Sequential Logic
- Logic Families (TTL, CMOS)
- Troubleshooting Digital Circuits (Logic Probe, Oscilloscope, DMM)

Soldering, Desoldering and PCB Repair

- Metallurgy, Alloys, Eutectic Melting Point, and Lead Free Solder
- Soldering Safety and Use of Personal Protective Equipment (PPE)
- Selection and Care of Soldering Irons
- Through Hole and Surface Mount Devices (SMD)
- Component Removal Using Solder Pump and Braid

Semiconductor Electronics

- Conductors, Insulators and Semiconductors
- Chemical Doping and Production of P & N Type
- Semiconductor Material
- PN Junction Diode Constriction and Biasing
- Light Emitting Diode (LED)
- Bipolar Junction Transistor (BJT)
- Integrated Circuit Design, Construction, Packaging and Pin Identification

DC Electronics

- Sources of Electricity
- Voltage, Current and Resistance
- Ohm's Law
- Series, Parallel and Compound Circuits
- Voltmeter, Ohmmeter and Ammeter Measurements
- Power

AC Electronics

- Frequency, Period and Wavelength
- Frequency Spectrum, Audio Frequency (A.F.), Radio Frequency (R.F.) and Microwave
- Inductance and Capacitance
- Transformers, Step-Up, Step-Down, Isolation
- Tesla Coils
- Three Phase AC Power Systems, Delta, Wye

Analog/Digital Conversion

- Analog to Digital Converter (ADC 0802)
- Digital to Analog Converter (DAC 0802)
- Sampling Rate, Resolution (8 and 24 bit), File Size
- Audio Conversion Formats (PCM, WAV, FLAC, MP3, MP4)
- Video Conversion Files (AVI, WMV, MPG)
- Video File Formats, Compression, CODEC

Telephone and Cellular Communications

- Duplex, Simplex and Half-Duplex Transmission
- Line, Trunk and Central Office (CO)
- Cordless Telephone (902-928 MHz, 2.4 GHz ISM)
- Wireless Telephone, Spread Spectrum (1850-1990 MHz)
- 1G (AMPS), 2G (PCS), 3G and 4G (LTE) Wireless
- Cellular and Personal Communications Systems (PCS)

Radio Communications

- Oscillators, Hartley, Colpitts, Crystal, Microwave
- Transmitters, RF Frequency Spectrum, Federal Communications Commission (FCC), International Telecommunications Union (ITU)
- Modulation, Amplitude (AM), Frequency (FM), Pulse Width (PWM)
- Antennas and Transmission Lines, Microwave, RADAR and Satellite Communication Systems
- History of Radio, Nikola Tesla, Lee DeForest, Howard Armstrong, Guglielmo Marconi
- Receivers, Crystal and "Foxhole", Heterodyne, Superheterodyne, Block Diagrams

EMERGENCY MEDICAL SERVICES

NYS CIP CODE: 51.0904

Program Summary

- Imagine life in the exciting world of EMS!
- Explore the wide variety of career opportunities available today in Emergency Services and Health Care.
- Build a foundation in medical terminology, anatomy and physiology, and pathophysiology.
- Practice hands-on emergency care skills such as patient assessment, treatment, team communication and patient transportation.
- Gain skills necessary for firefighting, auto extrication, and mass casualty incidents.

College Credit Connections

- Bryant and Stratton College
- SUNY Erie
- Trocaire College

Additional Information

- Students will gain certification in:
  - CPR (National)
  - First Aid (National)
  - EMT-B (State, National)
  - ICS 100, 200, 700, 800

Career Pathways

Professional Careers
Physician's Assistant
Physician
Public Health Official
Registered Nurse

Technical Careers
Advanced Emergency Medical Technician
Certified Nursing Assistant
Firefighter
Licensed Practical Nurse
Paramedic
Phlebotomist
Medical Assistant
Surgical Technician

Entry Level Careers
Camp Counselor
Certified Nursing Assistant
Community Medicine
Emergency Medical Dispatcher
Emergency Medical Technician (EMT)
Emergency Room Technician
Lifeguard
Medical Assistant
Special Event Medical Staff
Ski Patrol

EMERGENCY MEDICAL SERVICES

Anatomy and Physiology
- Biological Chemistry and Atomic structure
- Cellular Structure and Processes
- Tissue
- All 11 Body Systems

Medical Terminology
- Basic Medical Abbreviations
- Define Prefixes, Suffixes, and Word Parts
- Spell and Pronounce Medical Terms Accurately

Medicine
- Medical Overview
- Neurology
- Immunology
- Diseases and Disorders
- Basic Medical Abbreviations
- Define Prefixes, Suffixes, and Word Parts
- Spelling and Pronunciation

Preparatory
- EMS Systems
- Research
- Workforce Safety and Wellness
- Documentation
- Therapeutic Communication
- Medical/Legal and Ethics

Pharmacology
- Principles of Pharmacology
- Medication Administration
- Emergency Medications

Patient Assessment
- Scene Size Up
- Primary Assessment
- History Taking
- Secondary Assessment
- Monitoring Devices
- Reassessment

Mathematics
- Weight Conversions
- Concentration Calculations
- Cardiac Output
- Minute Respiratory Volume
- Drug Administration Calculations

Trauma
- Bleeding
- Special Considerations in Trauma
- Environmental Emergencies
- Multisystem Trauma

Special Patient Populations
- Obstetrics
- Neonatal Care
- Pediatrics
- Geriatrics
- Patients with Special Challenges

EMS Operations
- Principles of Safely Operating a Ground Ambulance
- Incident Management
- Multiple Casualty Incidents
- Air Medical
- Vehicle Extrication
- Hazardous Materials
- Terrorism and Disaster

NYS CIP CODE: 15.0405

Program Summary

- Through hands on learning projects and skill based competitions, Engineering and Robotics students prepare for the future by learning how to develop their ideas from concept to reality.
- Throughout the Design Process, we can take an idea and create just about anything you can conceptualize.
- Spend some time with us and learn how to build a trebuchet, help us to develop the technology necessary to create a 3D printed "bobblehead", or create 3D printable parts and artwork from black and white pictures.
- Utilizing classroom technology, we build a pumpkin-throwing trebuchet for annual competition, and a variety of robots for competitions within the classroom, at Tech Wars.
- Learn how to be productive in all work situations. Whether working alone, within a group, or leading a team of professionals in order to solve real-world problems in real-world situations.

College Credit Connections

- Bryant and Stratton College
- Rochester Institute of Technology - PLTW
- SUNY Canton
- SUNY Erie
- University of Northwestern Ohio

Career Pathways

Professional Careers

Aerospace Engineer
Architect
Chemical Engineer
Civil / Structural / Environmental Engineer
Computer Science Engineering
Design Engineer
Electrical Engineer
Engineering Manager
Industrial Engineer
Mechanical Engineer
Manufacturing Engineer
R&D Engineer
Robotics Engineer
Stationary Engineer

Technical Careers

Application Developer
Computer-Control Programmers
   and Operators
Data Analyst
Database Administrator
Electrical Engineering Technologist
Electrical Technologist
Manufacturing Technologist
Mechanical Engineering Technologist
Technology Project Manager

Entry Level Careers

Advanced Manufacturing
CAD Designer
CNC Programmer
Production Scheduler
Repair Technician
Robotics Programmer
Software Developer
Web Developer
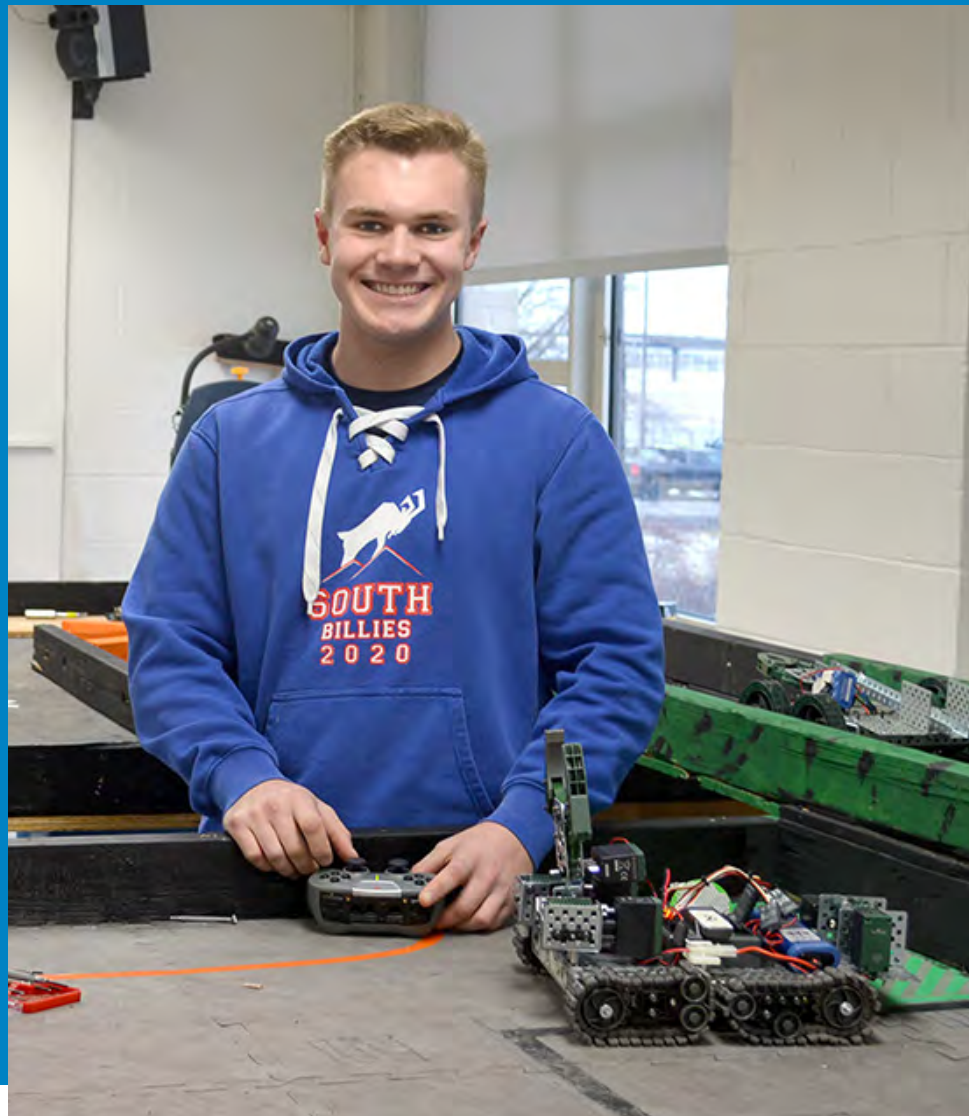
Engineering Essentials

- Students explore the breadth of engineering career opportunities and experiences as they solve engaging and challenging real-world problems like creating a natural relief center system or creating a solution to improve the safety and well-being of citizens.

Introduction to Engineering Design

- Students dig deep into the engineering design process applying math, science, and engineering standards to hands-on projects like designing a new toy or improving an existing product.

Principles of Engineering

- Students explore a broad range of engineering topics including mechanisms, strength of structure and materials, and automation, then apply what they know to take on challenges like designing a self-powered car.

Computer Integrated Manufacturing

- Students discover and explore manufacturing processes, product design, robotics, and automation, and then apply what they have learned to design solutions for real-world manufacturing problems.

Engineering Design and Development

- Students identify a real-world challenge and then research, design, and test a solution, ultimately presenting their unique solutions to a panel of engineers.

erie boces

FASHION DESIGN TECHNOLOGY
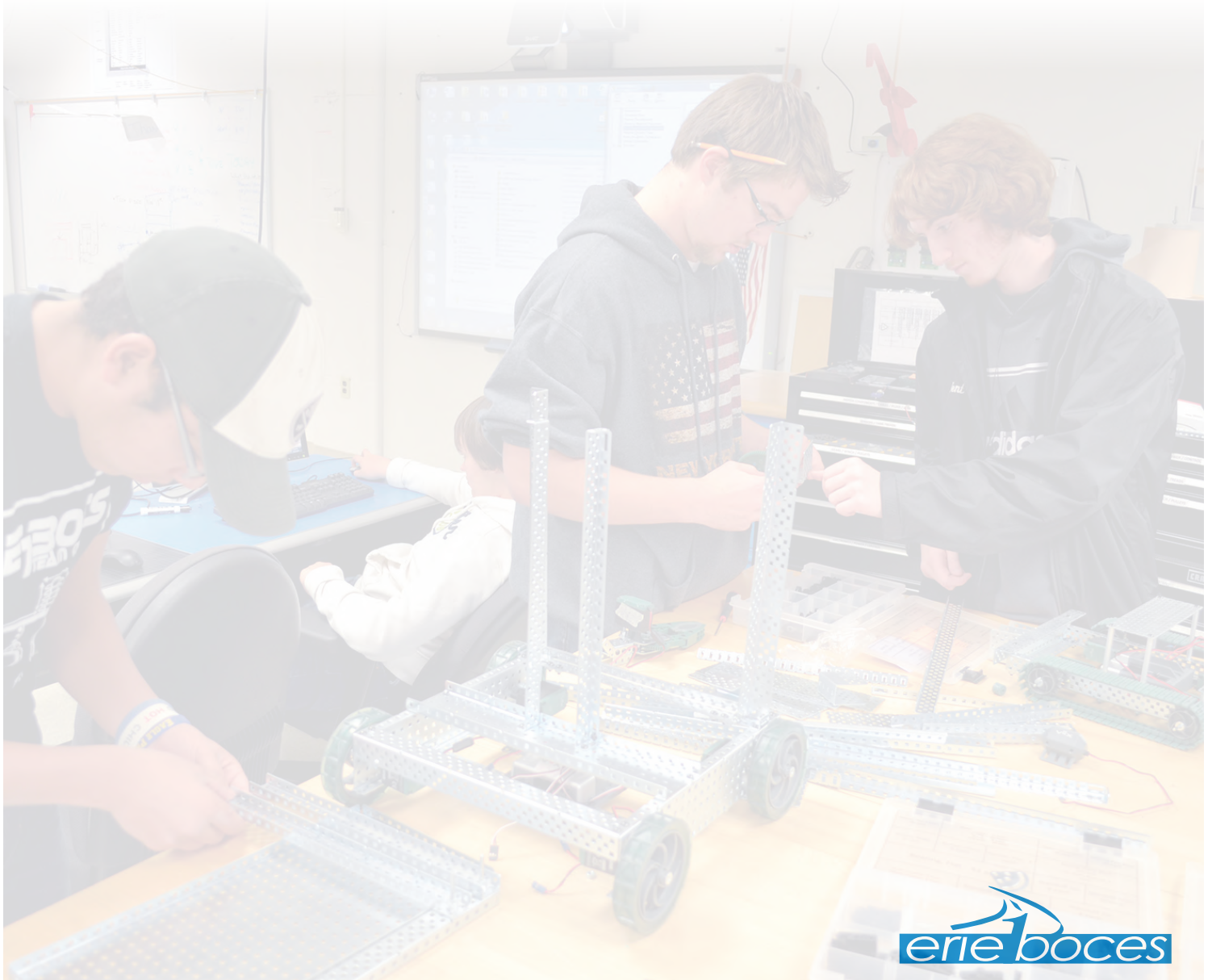
NYS CIP CODE: 50.0407

Program Summary

- Experience what it's like to produce a "NYC Fashion Week" style show exhibiting original student designs and styled merchandise selections from WNY Fashion boutiques.
- Meet new friends with similar interests in the fashion industry.
- Learn to dress, style, and create trends based on design elements and the fashion cycle.
- Get to know the movement of popular fashion by forecasting fashion trends while applying real world fashion skills.
- Create a successful business plan for a fashion boutique combining your design aesthetics with merchandising concepts.

College Credit Connections

- Bryant and Stratton College
- Genesee Community College
- LIM College
- SUNY Buffalo State College

Additional Information

- Students in this program are eligible for post-secondary dual enrollment.

Career Pathways

Professional Careers
Buyer
Costume Designer
Creative Director
Fashion Editor
Graphic Design Artist
Market Research Director
Marketing Manager
Resourcing Agent
Retail Operations Manager
Senior Fashion Designer
Style Director
Textile Developer
Wardrobe Stylist

Technical Careers
Assistant Graphic Designer
Fashion Designer
Fashion Merchandiser
Fashion Show Coordinator
Illustration Artist
Personal Shopper
Retail Manager
Social Media Manager
Stylist Assistant
Window Display Artist

Entry Level Careers
Assistant Fashion Show Coordinator
Fashion Designer Assistant
Retail Sales Associate
Seamstress

Fashion Show Production

Starting with mood boards and work room sketches, students plan, create and style a line of clothing that is showcased center stage at our yearly fashion show. Students plan every aspect of the show from designs to music to posters to choreography to invitations. This real-world experience is incredibly valuable for all!

Sewing

Basic sewing skills are used to create interesting projects that reflect student inspirations. Once basic sewing skills are mastered, you can create any designs exhibiting your inspiration.

Graphic Design

PhotoShop and Illustrator programs are used to create fashion magazine layouts that express current fashion trends and create unique digital pieces of art.

Fashion Trend Forecasting

Learn how to predict the next big fashion trend! We locate trends using global resources following fashions in many areas of the industry.

Fashion Psychology

Why do we wear what we wear? Successful fashion professionals know the spending habits of their customers. This unit helps in figuring out the priorities of consumers and why they wear and buy certain clothing styles paving the way for success in the business of fashion.

The Business of Fashion

Merchandising, marketing, and advertising are the keys to success in the fashion industry. Students will create a working business plan to use when opening up their own business.

Fiber, Yarn, Fabric, and Garment Production

How do clothes end up in the local mall? This unit follows a garment through all the steps of the production process from fiber to yarn to fabric to garment design to apparel sales. Students learn to appreciate how the clothes they wear everyday are manufactured and the impact of the fashion industry on the environment.

Fashion History

Before we can forecast future fashion trends, we need to appreciate how fashion has changed over time. This unit explores fashions and their influences from ancient worlds and American history during the 1900's to the present.

Analyzing Fashion Collections

Designers find inspiration just about anywhere. Learn how inspirations are the foundations for fashion collections and how a design aesthetic is a common thread in all their collections.

Illustrating

Learn how to creatively illustrate fashion designs using a croquis that professional fashion designers use. This skill gives you the freedom to draw anywhere. Then digitize your artwork using PhotoShop and Illustrator.

Technology

From wearable lights to digital designs in manufacturing, technology is impacting the fashion industry. Learn how to incorporate technology into your fashions from design to manufacturing to merchandising.

NYS CIP CODE: 51.1614

Program Summary

- Health care professionals touch lives and make a difference.
- According to a recent Gallup Poll, nursing is one of the most trusted professions in America.
- Get hands-on experience in a variety of health care environments including long term care facilities, hospitals, and an internship during your senior year.
- Develop personal and professional growth in an engaging environment.
- The need for health care professionals will allow you to live or travel wherever you desire while helping others.
- Tour acute care facilities, hospitals, UB's Gross Anatomy Lab, colleges, and the Gates Vascular Institute Brain Museum.

College Credit Connections

- Bryant and Stratton College
- SUNY Canton
- SUNY Erie

Additional Information

- Uniforms are required during on-site clinical experiences.
- Current physical require in fall of Junior year and must maintain updated physical for the entire two years.
- Additional steps are necessary to become a Certified Nursing Assistant.
- Certifications in BLS, First Aid, Blood Borne Pathogens, Stop the Bleed, Narcan Administration, and a CNA opportunity at the end of Senior year.

Professional Careers

Nurse Practitioner
Paramedic
Pharmacist
Physical Therapist / Occupational Physician
Physician's Assistant
Registered Nurse
Therapist

Technical Careers

Emergency Medical Services
Laboratory Technician
Licensed Practical Nurse
Massage Therapist
Medical Assistant
Medical Billing
Occupational Therapist Assistant
Phlebotomist
Physical Therapist Assistant
Radiology Technician

Entry Level Careers

Central Supply Aide
Certified Nursing Assistant Medical Dietary Aide
Home Health Aide
Medical Supply Company Service
Personal Care Aide
Pharmacy Technician
Receptionist

Origins and History of Nursing

- History and Trends of Health Care
- Health Care Systems
- Careers in Health Care
- Personal and Professional Qualities of Health Care Workers

Anatomy and Physiology

- Major Organs and Systems of the Human Body
- Functions of Each Body System
- Compare Interrelationships of Body Systems
- Basic Diseases Affecting the Body Systems

Medical Terminology

- Basic Medical Abbreviations
- Define Prefixes, Suffixes and Word Parts
- Spell and Pronounce Medical Terms Correctly

Infection Control

- Microorganisms and their Classifications
- Six Components of the Chain of Infection
- Antisepsis, Disinfection and Sterilization
- Bioterrorism
- Aseptic Handwashing
- Standard Precautions
- Sterile Techniques for Gloving and Dressing

Legal and Ethical Responsibilities

- Situations that Might Result in Legal Action for Malpractice, Negligence, Assault and Battery, Invasion of Privacy, False Imprisonment, Abuse and Defamation
- How Contract Laws Affect Health Care
- Rights of the Patient Receiving Health Care
- Professional Standards to Meet Legal/Ethical Requirement
- Legal Regulations that Apply to Health Care Records
- HIPAA
- Basic Rules of Ethics for Health Care

Vital Signs

- Identify the Four Main Vital Signs
- Convert Fahrenheit to Celsius or Vise Versa
- Read a Clinical Thermometer
- Measure and Record Vital Signs Accurately
- Identify Normal Ranges for Vital Signs
- Include Pain as a 5th Vital Sign to be Assessed and Recorded

Communication

- Factors that Interfere with Communication
- Importance of Listening, Non-Verbal Behavior
- Reporting and Recording Processes
- Benefits of Teamwork
- Characteristics of Leaders

Personal Health and Wellness

- Nutrition
- Cultural Diversity
- Stress Reduction
- Emotional Response to Positive and Negative Stress
- Time Management and Problem Solving
- Depression

Personal Care Skills

- New York State Department of Health CNA Skills
- Therapeutic Diets
- Assistive Devices for Ambulation / Transfer of Patients
- Measure and Record Height and Weight
- Basic Identification of Medication and Administration
- Geriatric Care
- Pre / Post Operative Care
- Specimen Collection

Growth and Development

- Physical, Mental, Emotional and Social Developments
- Eating Disorders and Chemical Abuse
- Methods to Prevent Suicide and Common Warning Signs
- Stages of Grieving
- Maslow's Hierarchy of Needs
- Real Care Baby Project

erie boces

NYS CIP CODE: 47.0201

Program Summary

- Gain an understanding of the fundamentals of residential and light commercial plumbing, heating, and air conditioning installation, service and repair.
- You'll interpret blueprints, drawings, and schematics and be able to assemble, prepare and install piping and HVAC equipment for a variety of residential and light commercial applications.
- Be part of the team that constructs a modular home in conjunction with the Building Trades and Electrical classes.
- Get training on the latest green and solar technologies.
- Careers in the heating and air conditioning installation industry are growing rapidly each year.

College Credit Connections

- Alfred State College
- SUNY Canton
- University of Northwestern Ohio

Additional Information

- Students are responsible for purchasing leather gloves, work shoes, a tool belt, and basic hand tools.

Career Pathways

Professional Careers
Building Inspector
Building Superintendent
Contractor
Mechanical Engineer
Operations Manager
Plumbing / HVAC Educator

Technical Careers
Estimator
HVAC Technician
Industrial Plumbing Technician
Master Plumber
Pipe Fitter
Union Steamfitter

Entry Level Careers
Appliance Repair Technician
Building Maintenance Technician
Counter Sales Technician
Handyman
HVAC Installer
Plumbing Apprentice
Service Technician

HEATING, VENTILATION & AIR CONDITIONING

Drainage, Waste and Vents

- Learn to properly size, layout, and install DWV for both residential and commercial applications.

Potable Water Systems

- Learn to properly size, layout, and install potable water systems.

Forced Air Heating Systems

- Learn to properly size, install, troubleshoot, and repair all types of residential forced air furnaces.

Steam and Hydronic Heating Systems

- Learn to properly size, install, troubleshoot, and repair all types of residential boiler systems.

Central Air Conditioning Systems

- Learn to properly size, install, troubleshoot, and repair all types of residential central air systems.

Soldering and Brazing

- A "must have" skill for all plumbers and HVAC techs! Students will learn a variety of methods for joining pipes and fittings.

Fixture and Faucet Service and Installation

- Students will gain "real world" experience working on and installing a variety of plumbing fixtures.

Blue Print Reading and Plumbing Drawings

- Students will learn how to quickly and accurately read and interpret blueprints and isometric drawings.

Trade Related Certifications

- EPA608 (required to work with refrigerants)
- OSHA10

NYS CIP CODE: 39.9031

Program Summary

- Do you want to change people's lives and make an impact on their physical health?
- The fitness and wellness industry is one of the fastest growing in the country.
- If you are outgoing and active, this is a rewarding career choice.
- Internships will expand your occupational knowledge and help you explore your field of study.
- Get real world experience working with allied health care continuum professionals.
- Students are taught by Certified Personal Trainers and Strength and Conditioning Coaches.

College Credit Connections

- Bryant and Stratton College
- Canisius College
- Niagara County Community College
- SUNY Canton
- SUNY Erie

Additional Information

- Students are responsible for purchasing a uniform for the fitness lab.
- Students will be prepped for a Personal Training Certification (NASM, ACE, NETA).
- Students in this program are eligble for post-secondary dual enrollment opportunities.

Professional Careers

Athletic Trainer
Chiropractor
Exercise Physiologist
Nutritionist / Registered Dietitian
Physical Education Teacher
Physical Therapist
Strength and Conditioning Coach

Technical Careers

Certified Personal Trainer
Cross Fit Level 1 Coach
Group Exercise Instructor
Gym Manager
Massage Therapist
Physical Therapist Assistant
Yoga / Pilates Instructor

Entry Level Careers

Desk Receptionist
Fitness Club Front
Fitness Coach
Health Sales Associate
Lifestyle Coach
Professional Bodybuilder
Recreation Coordinator
Sports Coach

Fitness Safety

- CPR First Aid
- Proper Form
- Equipment Maintenance
- Spotting Techniques
- Injury Prevention
- Proper Warm-Up and Cool Down Techniques

Functional Movement Screening

- 5 Major Movements
- Posture
- Stability
- Mobility
- Balance
- Flexibility

Health Fitness Trends

- Social Media
- Research Based CEC's
- Allied Health Care

Human Anatomy Physiology

- Muscle Origins and Insertions
- Joint Actions / Movement
- VT1 and VT2 Thresholds

Nutrition and Weight Management

- Metabolic Syndrome
- Basal Metabolism
- Caloric Education
- Body Composition

Special Program Design

- Special Population and Needs
- Older Adults / Special Needs
- Chronic Illness and Needs
- Youth Clientele

Starting a Fitness Business

- Marketing of a Big Box Gym and Training Studio
- Legal and Ethical Implications
- Fitness Programs and Class Instruction
- Nutrition, Weight Loss, Energy and Sports Performance
- Risk Management

Sport Specific Training

- Utilize the Same Equipment and Technology as Professionals
- Employment Opportunities in Strength and Conditioning
- Injury Prevention
- Sport Skill Assessments

Cardiovascular and Resistance Training Program Design

- Design a Structured Exercise Routine for Client Goals
- Weight Loss
- Muscle Building / Assessments
- Cardiovascular Endurance / Assessments
- Exercising to Benefit Chronic Diseases and / or Avoid Risk Factors

NYS CIP CODE: 10.0202

Program Summary

- Are you a creative person who loves video, film, sound, and music?
- Learn to create and produce your own original films and music with the guidance of industry professionals.
- Careers in video production and recording arts are very exciting, social, and creative.
- The video and recording industry is always changing and a VPRA student will have the opportunity to gain experience with cutting edge technology and network with industry professionals.
- If you are social, creative, and love film or music, then the Video Production and Recording Arts program is for you!

College Credit Connections

- Canisius College
- Hilbert College
- Niagara County Community College
- SUNY Erie
- Villa Maria College

Additional Information

- Students will be able to earn ProTools User, ProTools Operator Music, and ProTools Game Audio certifications as well as a Sibelius User certification.

Career Pathways

Professional Careers
College Professor
Director of Photography
Film Director
Film Editor
Recording Studio Owner / Manager
Sound Designer
Tour Production Manager

Technical Careers
Editing Room Assistant
Live Sound Engineer
Music Producer
Recording Engineer
Technical Director
Video Editor
Videographer

Entry Level Careers
Assistant Audio Engineer
Assistant Camera Operator
Movie Set Grip
Production Assistant
Stage Hand
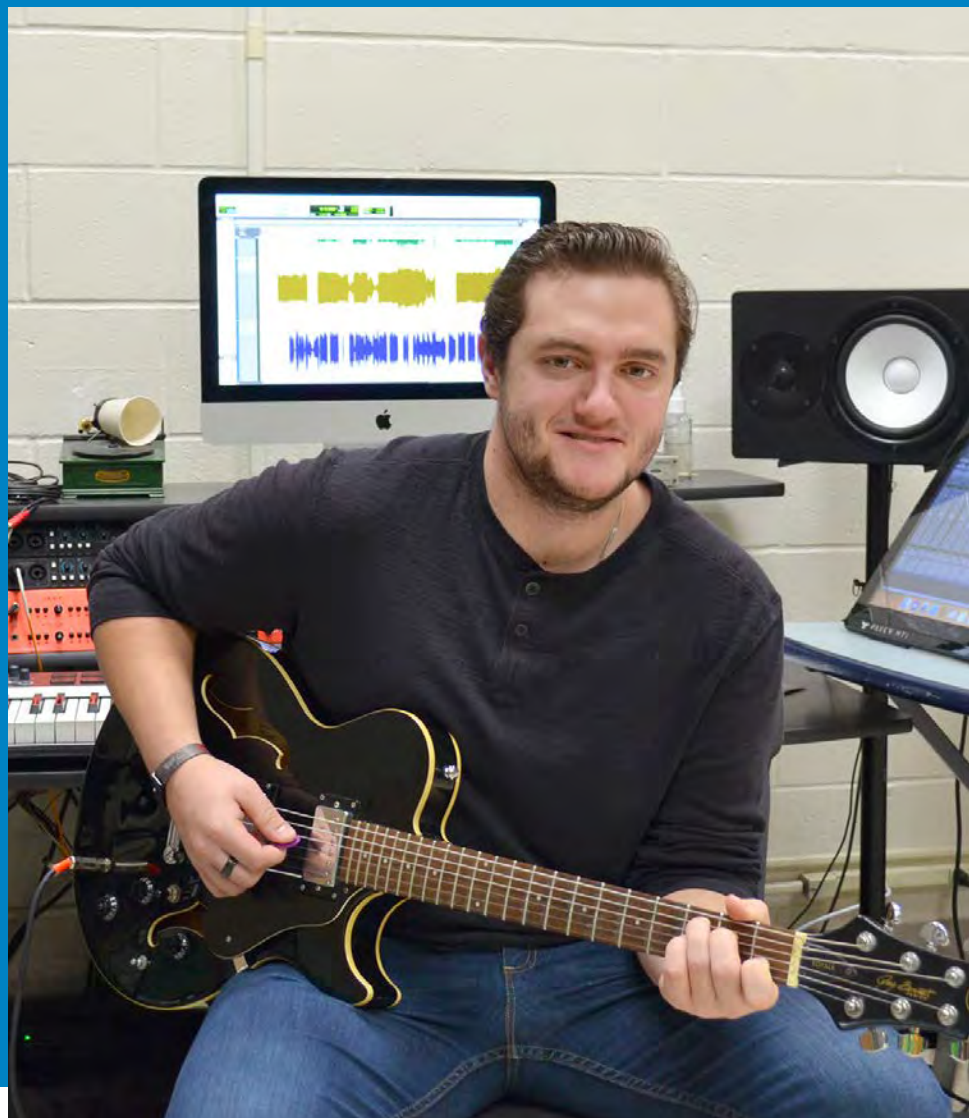
VIDEO PRODUCTION & RECORDING ARTS

Video Production Basics
- Equipment Basics
- Camera Operation
- Video and Audio Quality

Video Language
- Camera Angle Names
- Creating Continuity
- Making Transitions

Video Project Development
- Defining a Project
- Preparing a Treatment
- Creating a Storyboard
- Writing a Script

Video Program Creation
- Story Videos
- Nonfiction Programs
- Instructional Programs
- News Reports
- Documentaries

Introduction to Sound
- The Recording Studio
- Live and On-Location Recording
- Careers in Audio
- The Recording Process
- Copyright in Music

Microphone Design & Application
- Microphone Design
- Microphone Characteristics
- Microphone Techniques
- Microphone Selection

Digital Audio Technology
- Digital Audio Basics
- Digital Audio Recording Process
- Digital Audio Recording Systems

Digital Audio Workstation
- DAW Hardware and Software
- Sound File Formats
- DAW Controllers
- System Interconnectivity

Art of Mixing
- Process of Mixing
- Concept of Mixing
- Digital Console and DAW Mixer Technology
- Mixing Basics
- Automation

erie boces

NYS CIP CODE: 15.1202

Program Summary

- Bring your ideas to life by writing your own software.
- Like playing games? Design and code your own!
- Be a bigger part of the web by creating web pages and sites.
- Be a part of the virtual world.
- Become a leader in game design!

College Credit Connections

- Bryant and Stratton College
- Canisius College
- Villa Maria College

Additional Information

- Students in this program are eligible for post-secondary dual enrollment opportunities.

Career Pathways

Professional Careers
Computer Programmer
Computer Systems Administrator
Computer Systems Analyst
Game Production and Management
Information Security Analyst
IT Manager
Software Developer
Web Developer & Project Engineer

Technical Careers
3D Game Programmer
Beta Tester
Computer Support Specialist
Technical Product Manager
Think Tank Analyst
Web Application Developer
Web Developer

Entry Level Careers
Coder
Data Entry / Database Design
Entrepreneur
Game Interface Design
Systems Analysis
Web Design and Maintenance Entrepreneur

Web Design

- Creating Dynamic Web Sites
- Working with Video, Sounds, and Images
- Designing Small Web Files (SWF) Games and Movies

Web Development Applications

- Adobe Software
- Interactive Game Development
- Cascading Style Sheets (CSS)
- Design Your Own Website

Programming

- Basics of Programming
- Game Programming Languages
- 3D Game Programming

Game Development Applications

- Program Graphical Computer Programs
- Learn Programming and Have Fun
- Virtual Learning Activities
- Design Your Own Game

Databases

- How Internet Buying and Selling Works
- Organizing Customer Information
- Creating Forms and Reports

NYS CIP CODE: 48.0508

Program Summary

- Welding holds much of our world together, from buildings and bridges to airplanes and equipment.
- Take a drawing or blueprint and breathe life into it by fabricating a life size creation.
- Know you have a future with many different job skills that will drive you down the road of success towards manufacturing, field work, or owning your own company.
- Skilled Welders Needed! There is a large shortage of welders in the United States with great opportunities for employment.

College Credit Connections

- Alfred State College
- Lincoln Technical Institute
- Niagara County Community College
- Ohio Technical College

Additional Information

- Students in this program are eligible for post-secondary dual enrollment opportunities.
- Steel/Composite toed work boots and appropriate dress are required to participate in shop activities.

Career Pathways

Professional Careers
Building Superintendent
Certified Welding Inspector
Engineer
Mechanical Engineer
Welding School Teacher

Technical Careers
Boilermaker
Fabricator
Ironworker
Machinist
Millwright
Pipeliner
Robotics Technician
Shipwright
Steamfitter
Underwater Welder
Welding Fabricator

Entry Level Careers
Apprenticeship Opportunities
Shop Helper
Sheet Metal Workers
Welder
Welding Associate
Welding Apprentice
Welding Supervisor

WELDING

Welding Safety

- Personal Protective Equipment (PPE)
- Burn Classification
- Face, Eye, and Ear Protection
- Ventilation
- Handling and Storing Cylinders
- Electric Hand Tool Safety and Operation
- Equipment Maintenance and Care

Metal Working Safety

- Grinding
- Preparation
- Shearing
- Machine Cutting
- Hand Cutting

Oxy-Fuel Cutting

- Equipment Set Up
- Cylinder Handling
- Regulator Safety
- Torches / Gases
- Hand Cutting
- Track Cutting
- Hand Auto Cutting

Shielded Metal Arc Welding (SMAW)

- Equipment Set Up
- Basic Operations
- Types of Electrodes
- Multiple Position Welding
- Out of Position
- Operating Equipment

Gas Metal Arc Welding (GMAW)

- Spray Transfer
- Globular Transfer
- Short Circuit Transfer
- Pulse Transfer
- Equipment Setup and Operation
- Machine Parts
- Welding Defects

Gas Tungsten Arc Welding (GTAW)

- Equipment Set Up
- Gases / Flowmeter
- Equipment Operator
- Ferrous Metals
- Non-Ferrous Metals
- Torches and Machine Types
- Pulse TIG Welding

Plasma Arc Cutting

- Equipment Set Up
- Safety
- Types
- Gases
- Torches

Light Manufacturing

- Drill Press
- Sheet Metal Bending
- Machining Lathe
- Bridge Port Drill
- Hydraulic Shear
- Hydraulic Band Saw
- Iron Worker

ERIE 1 BOCES

CAREER AND TECHNICAL EDUCATION PROGRAMS

MORE OPTIONS FOR HIGH SCHOOL STUDENTS

AND HONOR LEVEL SENIORS

CTE Programs

New Visions Programs

Half or Full Year Program

Program Summary

- Experience a variety of programs in pursuit of your passion.
- Full year students will experience 8 different programs for 5 weeks at a time.
- Half year students will experience 4 programs for 5 weeks at a time.
- Time is spent shadowing the program and completing various projects designed for the Career Explorer.

Additional Information

- Career Exploration is available as a whole or half year option.
- CDOS tracking and eligibility for full year students only.
- Available to students in grades 10, 11, and 12.
- Work-based learning hours are not provided in this curriculum.

Exploration Opportunities

Animal Science
Auto Technician Training
Aviation Technology
Baking and Pastry Arts
Barbering
Building Trades
Collision Repair
Cosmetology
Criminal Justice
Culinary Arts
Cybersecurity and Networking
Dental Laboratory Technology
Digital Media
Early Childhood Education
Electrical Systems
Electronics and Computer Technology
Emergency Medical Services
Engineering and Robotics
Fashion Design Technology
Health Careers
Heating, Ventilation and Air Conditioning
Sports Science Careers
Video Production and Recording Arts
Web Technologies and Game Programming
Welding

"We are very proud of the work we've done with the BOCES program over the last 16 years. The students we have worked with in your program have been nothing less than exceptional.
We look forward to continuing our work with you."

AMANDA LANYZS | NORTHEAST COLLISION

2 (or more) Year Program

Program Summary

- Occupational Education (OE) offers supportive career development programs for students with learning or management needs who require small classes and individually modified curricula.

Additional Information

- CDOS Credential or Pathway Program (with successful completion of standard state assessments and OE II).

OE I (One School Year)

- Students will explore career modules in Automotive Services, Building Maintenance, Food Service, and Human Services. Student performance is evaluated at the end of each five-week period. Evaluations from OE I are used as a guide to help choose an appropriate training area for OE II.

OE II (Two or More Years)

- Students will choose one of four strands in which to continue skill development. These include Automotive Services, Building Maintenance, Food Service, and Human Services. Curriculum activities relate to entry level employment skills necessary for successful performance. Internships are available for those students ready to work in the community.

Career Pathways

Automotive Services
Auto Detailer
Lubrication Services
Parts Counter Worker
Service Center Assistant
Tire/Brake Services

Food Service
Dishwasher
Line Cook
Prep Cook
Server / Busser

Building Maintenance
Construction Laborer
Custodial Assistant
Home Improvement Staff
Maintenance Worker

Human Services
Dietary Assistant
Housekeeping / Laundry Staff
Hospitality Worker
Resident Aide

Automotive Services

- Tire / Brake Service
- Interior / Exterior Detailing
- Lubrication Service
- Engine Performance
- Exhaust Service
- Suspension and Steering
- Vehicle Maintenance
- Electrical Systems
- NYS Inspection

Building Maintenance

- Electrical Repair
- Painting and Staining
- Drywall
- Plumbing Repair
- Window Glazing
- Carpentry
- Lock Replacement

Food Service

- Breakfast, Lunch and Dinner Service
- Baking Basics (i.e. Cookies)
- Cooking Techniques
- Real Work Internship Experience
- Knife Skills
- Soups
- Yeast Breads (i.e. Pizza)

Human Services

- Hands-On Community Work Experiences in Hospitality, Heath Care and Retail Service Fields
- Teamwork and Personal Skills
- Responsible Pet Ownership
- Job Preparation and Retention Skills
- Interview Skills
- Leadership and Self Advocacy

CONNECTIONS: HEALTH RELATED CAREERS

Buffalo General Medical Center | Millard Filmore Suburban Hospital | Oishei Children's Hospital

Program Summary

- The medical professional of today is a member of the ever evolving world of health care. It demands creative critical thinking to deliver high quality and state-of-the-art patient care.
- Experience a day in the life of a practicing medical professional as they interact with colleagues, patients and families.
- Students directly observe professionals while providers care and treat a variety of patient conditions.
- Correlate concepts of government and economics as they relate to today's unique health care challenges.

Annual Credits

- 1 Credit ELA 12
- 1 Credit PIG/Economics
- 1 Credit Anatomy, Physiology and Disease
- 1 Credit Internship

Additional Information

- New Visions program require an application and an interview for admission.
- Current immunization, PPD, and physical exam are required prior to the start of class.
- Students must provide their own transportation to class and clinical.
- Professional dress is required daily.
- Students are responsible for purchasing a lab coat at the beginning of the school year.

Career Pathways

Professional Careers
Biomedical Engineer
Chiropractor
Dentist
Hospital / Nursing Home Administrator
Lab Technologist
Nurse Practitioner
Paramedic
Pharmacist
Physical / Occupational /
    Speech Therapists
Physician Assistant
Physician / Medical Specialties
Registered Dietitian
Registered Nurse

Technical Careers
Emergency Medical Technician
Imaging Technician
Licensed Practical Nursing
Medical Assistant
Medical Records: Biller & Coding
Mortician
Physical Therapy Assistant
Respiratory Therapist

Entry Level Careers
Activity Aide
Central Supply Aide
Certified Nursing Assistant
Home Care Aide
Medical Secretary / Receptionist
Phlebotomist

Anatomy and Physiology

- Structure and Function of Body Systems
- Medical Terminology
- Observe Normal Anatomy and Physiology Through Clinical Observation

Pathophysiology

- Disease as it Affects Individual Health
- Observe Disease Process and Treatment Through Clinical Observation

Possible Clinical Rotations

- Medical and Surgical Acute Care
- Infection Control
- Diagnostic Imaging
- Primary Care Clinics
- Critical Care
- Pharmacy
- Research

English

- Health Care Subject Novels which Correlate to Anatomy, Physiology and Disease
- Documentation of Clinical Experience and Observation
- Healthcare Topic Case Presentations
- Topic Specific Research Paper and Debate
- Debate/Presentation

Participation in Government

- Governmental Control and Laws as they Pertain to Health Care, Licensure, Insurance and Privacy
- Public Debate on Current Healthcare Topic
- Topic Specific Research Paper

Economics

- Financial Implications for the Practicing Professional and Medical Decisions
- Personal Finance for College and Career Readiness
- Final Project on Global Health

Health Care Internships

- Observing Diverse Medical Professionals While Participating in Clinical Setting
- Apply Theory to What is Observed in the Facility and Community Venues

JOHN R. OISHEI Children's Hospital

UB|MD ORTHOPAEDICS & SPORTS MEDICINE

Buffalo General Medical Center
Gates Vascular Institute
A Kaleida Health Facility

Millard Fillmore
Suburban Hospital
A Kaleida Health Facility

erie boces

Program Summary

- Customize your education to prepare yourself for the future of your dreams!
- Strengthen transferable professional skills and communication while networking with peers and local industry professionals.
- Internships will cater to student interests and aspirations through hands-on learning experiences.
- Consider a multitude of pathways by engaging with guest speakers and presentations by industry professionals.
- Correlate concepts of ELA, government, and economics as they relate to professional fields.
- Writing-intensive course will have you prepared with the communication skills necessary to succeed.
- Prepare yourself for college and careers with personalized resumes, cover letters, portfolios, and more.

College Credit Connections

- SUNY Erie

Annual Credits

- 1 Credit ELA 12
- 1 Credit PIG/Economics
- 1 Credit Internship
- 1 Credit Public Speaking

Additional Information

- New Visions programs require an application and interview for admission.
- Students must provide their own transportation to intership sites.

Career Pathways

Professional Careers

Business Administration
Journalist
Human Resource Officer
Educator
Strategist
Marketing Professional
Business Executive
Consultant
Communication Specialist
Media / Public Relations
International Business

Technical Careers

Business / Account Manager
Advertising Agent
Analyst
Coordinator
Project / Office Manager
Account Executive
Compliance Officer
Content Writer
Digital Marketing

Entry Level Careers

Salesperson
Entrepreneur
Customer Relationship Specialist
Data Entry

Professional Communication and Composition

- Build resume, e-Portfolio, cover letter, etc
- Email writing and business correspondence
- Strengthen literacy skills through various writing tasks
- Develop clear and effective oral communication
- Business and Technical Report Writing
- Bibliographic instruction
- Academic policies and procedures

Internships

- Observe professionals in diverse career pathways and participate in organizational functioning
- Apply theory and to practice and showcase professional skills
- Multiple opportunities for diverse experiences

Human Resources

- Understand the interview and hiring process from the business perspective
- Policies and Procedures
- Cultural Diversity in the Workplace

Marketing and Personal Branding

- Learn about demographics and advertising approaches for a variety of business models.
- Develop a professional e-Portfolio showcasing learning experiences and professional documents
- Logos, jingles, and brand recognition
- Psychology of advertising
- Demographic factors shaping marketing strategies

Management

- Organizational Behavior
- Power Dynamics
- Public Policy and Law
- Consumer Relations

Public Speaking

- 7 Elements of Public Speaking
- Strategies for Effective Communication
- Overcoming internal and external interference

Personal and Professional Development

- Goal-setting and personal growth
- Problem Solving and Creativity
- Time/Task management
- Methods of inquiry and critical thinking

Entrepreneurship

- Study types of business and start-ups
- Writing a comprehensive business plan

LEGAL ACADEMY

In Partnership With Canisius College and The University at Buffalo

Program Summary

- The Legal Academy program offers an exciting opportunity for selected students to experience a unique alternative to the traditional classroom setting.
- Develop a network of professional connections through extensive field experiences across WNY.
- Create resumes superior to those of many college students.
- Shadow college level legal courses.
- Participate in the Erie County Bar Association's Mock Trial Competition.
- Mock trial at UB School of Law and Class Shadowing
- Internship Intensive Program
- Sites include political offices, courts (county, city and federal), law offices and transportation security administration

Annual Credits

- 1 Credit ELA 12
- 1 Credit PIG/Economics
- 1 Credit Criminal Justice
- 1 Credit Internship

College Credit Connections

- Bryant and Stratton
- Canisius College
- Hilbert College
- Medaille College
- SUNY Erie

Additional Information

- New Visions programs require an application and interview for admission.
- Students are responsible for their own transportation to Canisius College and internship sites.

Career Pathways

Professional Careers
Attorney
Forensic Agent: FBI, ICE, DEA
Intelligence Agent
Investigator
Judge
Probation / Parole Officer
Social Worker

Technical Careers
Corrections Officer
Crime Scene Investigator
Detective
Law Enforcement Officer
Legislative Analyst
Paralegal

Entry Level Careers
Bailiff
Dispatcher
Legal Secretary
Legislative Assistant
Lobbyist
Politician
Report Writer

Criminal Law

- The Criminal Trial
- NY State Penal Law
- Violent Crimes
- Property Crimes
- The Court System
- Sentencing and Corrections

Family Law

- Law and the American Family
- Marriage
- Parents and Children
- Foster Care and Adoption
- Separation, Divorce and Custody
- Juvenile Delinquency

Mock Trial

- Steps in a Trial
- Jury Selection
- Opening Statements
- Closing Arguments
- Rules of Evidence and Procedure
- Witness Examinations

Lawmaking

- Advocacy
- Settling Disputes
- Lawyers

Torts

- Civil Law
- Civil vs. Criminal Action
- Negligence
- Strict Liability
- Torts and Public Policy

Consumer Law

- Contracts
- Warranties
- Credit and Other Financial Services
- Deceptive Sales Practices
- Major Purchases

Individual Rights

- Freedom from Unreasonable Search and Seizure
- Freedom of Speech
- Double Jeopardy
- The Right to an Attorney / Jury Trial
- 8th Amendment and Capital Punishment

Policing

- Article 35: Use of Force
- NY State Safe Act
- The Crime Scene
- Forensic Techniques

Contemporary Issues in Law

- Immigration Law
- Intellectual Property
- Law and Terrorism

Internship Rotations

- Four Internships per Year
- One Internship per Quarter
- Sites include political offices, courts (county, city and federal), law offices and transportation security administration

ZOO WILDLIFE & CONSERVATION CAREERS

In Partnership with the Buffalo Zoo

Program Summary

- Consider the 23-acre Buffalo Zoo your new home!
- The Zoo Wildlife and Conservation Careers program allows highly motivated, college bound seniors the opportunity to explore options in the many areas related to wildlife, conservation and zoo-based careers.
- This exciting program includes daily access to zoo grounds, internships with keepers, behind the scenes tours, and diverse guest speakers.
- Students will get to experience the zoo's day to day operations and learn how to incorporate conservation into their daily lives and help spread the message to others.
- The school year will culminate with a project in which students research and design their own animal exhibit with input from the Buffalo Zoo's animal experts.
- Correlate concepts of ELA, government and economics as they relate to animal and conservation topics.

College Credit Connections

- Canisius College

Annual Credits

- 1 Credit ELA 12
- 1 Credit PIG/Economics
- 1 Credit Internship
- 1 Credit Zoology

• Additional Information

- New Visions programs require an application and interview for admission.
- Students are responsible for their own transportation.
- Students are required to have completed 2 academic credits in Regents level science and 2 academic credits in Regents level math upon entering the program.
- Current immunizations, PPD, and physical exam are required.

Career Pathways

Professional Careers
Curator
Ecologist
Environmental Scientist
Fish and Game Warden
Marine Biologist
Veterinarian
Wildlife Biologist
Wildlife Enforcement Officer
Zoologist

Technical Careers
Animal Nutritionist
Animal Trainer / Behaviorist
Animal Welfare Agent
Aquarist
Habitat Specialist
Licensed Veterinary Technician
Wildlife Rehabilitator
Wildlife Technician
Zookeeper

Entry Level Careers
Animal Care Specialist
Animal Shelter Worker
Farm Hand
Humane Educator
Kennel Assistant
Stable Worker
Veterinary Assistant
Wildlife Rehabilitation Assistant
Zoo Program Assistant

Conservation

- Habitat Loss
- Invasive Species
- Climate Change
- Biodiversity
- Conservation Education
- Species Survival Plans

Animal Husbandry

- Zoo Animal Care
- Diet and Nutrition
- Population Management
- Record Keeping and Transportation

Evolution of Zoos

- Zoo History
- Today's Zoos
- Professional Zookeeping
- Animal Ethics and Welfare
- Safety

Zoology & Animal Science

- Reptiles
- Amphibians
- Birds
- Fish and Marine Life
- Mammals
- Invertebrates
- Anatomy and Physiology

Behavior

- Basic Animal Behavior
- Animal Observations
- Enrichment
- Positive Training Methods
- Husbandry Training

Veterinary Care

- Zoonotic Disease
- Safety
- Handling and Restraint
- Preventative Care and Maintenance
- Directional Terminology

Exhibit Design

- Planning an Exhibit
- Plant Selection
- Exhibit Considerations and Safety
- Needs of the Animals
- Life Systems Maintenance
- Public Education Signs and Interactive Displays

Horticulture

- Native Plants
- Identifying Plants
- Botany
- Zoo Horticulture

Zoo Operations

- Mission and Purpose
- Educational Displays
- Zoo Events
- Volunteer Opportunities
- Marketing and Business

buffalozoo

erie boces

ERIE 1 BOCES

MORE OPPORTUNITIES

**PROGRAMS FOR MIDDLE SCHOOL AND
HIGH SCHOOL STUDENTS**

The P-TECH R.A.C.E. Program offers:

- A FREE Associates Degree from SUNY Erie.
- Graduate with industry credentials.
- Rigorous Technical Endorsed Regents Diploma and college coursework.
- Opportunities to career pathways in highly-demanded STEM fields.
- Preparation for careers with strong earning potential.
- Relationship building with industry professionals.

The P-TECH B.U.I.L.D. Program offers:

- A FREE Associates Degree from SUNY Erie.
- Graduate with industry credentials.
- Rigorous Technical Endorsed Regents Diploma and college coursework.
- Opportunities to career pathways in highly-demanded STEM fields.
- Preparation for careers with strong earning potential.
- Relationship building with industry professionals.
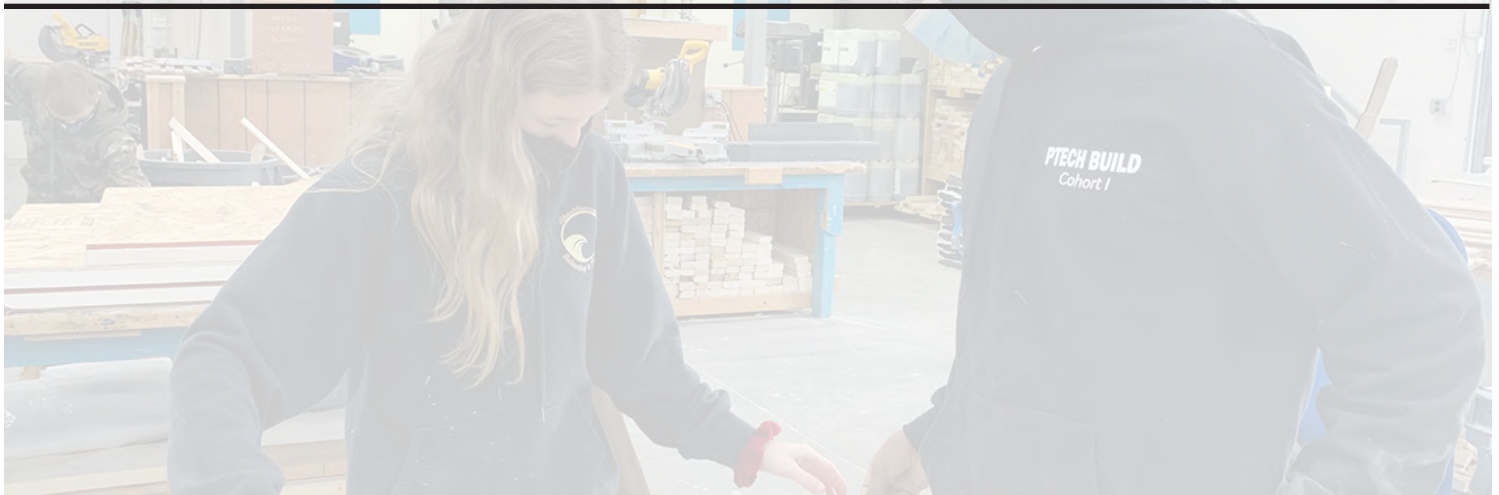
ERIE 1 BOCES
MIDDLE
SCHOOL
INITIATIVE

Providing opportunities for the next generation to explore all that is possible in Career and Technical Education.

Erie 1 BOCES is committed to expanding opportunities for all WNY students to experience high quality career and technical education. Early access and exposure to career exploration, STEM, and application-based learning is critical to this effort. To support this, Erie 1 BOCES has developed a series of enrichment activities for middle school aged students. Most activities are FREE of charge and include transportation.

MINECRAFT MADNESS

MINECRAFT OBSTACLE COURSE TEAM COMPETITION

Minecraft Madness is an annual team competition hosted by the Web Technology and Game Programming Department. Teams of 8th grade students travel to an Erie 1 BOCES Career and Technical Center to compete against rival middle schools in the design and completion of an obstacle course they create. Students are tasked with building their best obstacle to stump their rivals and take home the trophy! Participation in this event includes a Minecraft.edu license for use in the classroom!

"TASTE OF TECH"

Every January during Regents Week, the Harkness, Kenton and Potter Career and Technical Centers open their doors to local 8th graders for a 3-hour, interactive career exploration experience.

Summer AT THE Center

Campers spend a week at the Career and Technical Centers and participate in a series of 4 camps of their choosing. From Animal Science and Camp Culinary to the 7-Hour Movie Challenge, camps are designed to engage students in exciting and interactive activities that make learning fun!

www.e1b.org/summercamp

Middle School MODS

Heart Healthy	Cupcake Wars
Pizza Palooza	Pet Purr-Suit
Movie Poster Design	Theatrical Makeup
Runway to Fashion	

This unique collaborative experience builds a direct partnership between a middle school Family and Consumer Science, Health, Art or Technology teacher and an Erie 1 BOCES CTE Teacher. Teachers from both the component middle school and E1B will collaborate to enhance high-interest lessons with a CTE flare. Participating students will have direct access to an E1B CTE Center for a hands-on culminating activity that builds upon the interactive lessons.

G.R.I.T.

Girls Rising Interest in Technology

Erie 1 BOCES is proud to offer this STEM and industry-based field trip exclusively for Middle School girls. The day includes several stops at well-known Western New York STEM based industry partners where the girls will tour, interact and hear from female leadership, participate in hands-on activities and build an understanding of available career pathways.

Middle School in Motion.

More than 4,000 Students Participate Annually.

GET INVOLVED!

Website
www.e1b.org

Email
atrautman@e1b.org

Phone
(716) 821.7076

ERIE 1 BOCES

EXCEPTIONAL EDUCATION

ALTERNATIVE EDUCATION

SPECIAL EDUCATION

EXCEPTIONAL EDUCATION PROGRAMS AND SERVICES

CCRA	eAcademy	EDGE	Extended School Year
College and Career Readiness Academy Grades 9 – 12 6:1:1 Classes	100% Virtual Learning Option General Education Students Grades K-12	Regents Bound Academics Grades 9 - 12 CCRA, Twilight, and Long Term Suspension offered here	Self-Contained Classes Grades K - 12
Located at EDGE		1635 East Delevan Avenue Cheektowaga, NY 14215	Various Locations Across WNY

Home Hospital Instruction	Integrated Special Classes	Maryvale Academy	MiddleTech
All Grade Levels	Academic and Functional Classes All Grade Levels	Functional and Regents Bound Academics High School	CTE and Project-Based Curriculum Grades 7 - 8
	Various Locations Across WNY	1050 Maryvale Drive Cheektowaga, NY14225	Located at Winchester Academy

Northtowns Academy	Project Search	Related Services	RISE
Middle School Grades 6 - 8, 6:1:1 Classes RISE and Long Term Suspension Offered Here	Functional Classes Work-Based Learning Ages 18 - 21	All Grade Levels	Reaching Individual Student Excellence Grades K – 8, 6:1:2 Classes
333 Dexter Terrace Tonawanda, NY 14150		Various Locations Across WNY	Located at Northtowns Academy

Twilight	Winchester Academy	WNY Children's Psychiatric Center
Evening Academic Options Grades 9 – 12	Functional and Academic Grades 9 - 12 MiddleTech offered here	Intensive Day Treatment Grades 6-12
Located at EDGE	650 Harlem Road West Seneca, NY 14224	575 Alberta Drive Amherst, NY 14226

ERIE 1 BOCES

ADULT WORKFORCE DEVELOPMENT

CAREER DEVELOPMENT TRAINING

TRAINING THE
WORKFORCE

Adult Career Training in One Year or Less

Short-term training programs to meet your needs.
Register early to save your spot!

- Day and Evening Classes Available
- Convenient Locations
- Job Placement Assistance
- Affordable Tuition, Financial Assistance
- Industry-Experienced Instructors

Workforce Development
erie boces

www.e1b.org/wfd   (716) 821-7500   wfd@e1b.org

Automotive

Barbering

Building Trades

Certified Nursing Assistant

CNC Machining

Cosmetology

Electrical

Electro Mechanical Maintenance

HVAC

Licensed Practical Nurse

Medical Billing Clerk

Medical Office Assistant

Phlebotomy

Welding

Contact Us
Workforce Development Center
1526 Walden Ave., Suite 200, Cheektowaga, NY 14225
www.e1b.org/WFD • WFD@e1b.org • (716) 821-7500

LOCATIONS ACROSS WNY!

Affordable Tuition and Financial Assistance

On average, Erie 1 BOCES' job training tuition costs 50% less than similar programs offered by local colleges. Students may be eligible to receive funding through: ACCES-VR, Buffalo Employment and Training Center (BETC), CSEA, ECC One Stop, Niagara Employment and Training, SEIU Local 1199, and Veterans Benefits. Various State and Federal grants are also available as well as Direct or Private Student Loans.

Literacy Services

High School Equivalency and ESL (English for Speakers of Other Languages) courses are available across Western New York. Remedial courses are available for students who need support in Math or English.

Student Services

Erie 1 BOCES supports its students successful transition into permanent employment with:

- Career Counseling
- Job Readiness Training
- Resume Writing Workshops
- Interview Preparation
- Job Placement

erie 1 boces

Ignite Your Inner Spark.

Updated 2022