Hillsdale Area Career Center
Course Descriptions

CONSTRUCTION TRADES 46.0000

The Construction Trades program at Hillsdale Area Career Center is a comprehensive two-year course designed to provide students with fundamental and advanced skills in residential construction. Through classroom instruction and hands-on training at the HACC Construction Site, students gain the core competencies necessary for careers in the construction industry, including pathways into post-secondary construction management, Carpentry Apprenticeship Programs, and entry-level construction jobs.

Program Overview: Students in this program participate in the complete construction of a single-family home, gaining practical experience in all phases of the building process. The program is aligned with the National Career Cluster for Architecture and Construction and integrates industry-relevant competencies to prepare students for future career opportunities.

Core Instructional Areas:

- Safety, Health & Environment: Students learn to implement job site safety regulations and maintain healthy working conditions in compliance with industry standards.
- Equipment & Tools: Training includes using hand, stationary, and portable power tools commonly associated with construction trades.
- Industry Foundations: Students develop essential academic and technical knowledge, including mathematical applications, communication skills, leadership, and teamwork in the construction field.
- Residential Construction: The program covers foundational concepts such as materials, methods, framing, roofing, siding, window/door installation, and finishing techniques.
- Heavy Equipment & Highway Construction: Exposure to heavy machinery and civil construction techniques broadens students' understanding of large-scale construction operations.
- Green Building Practices: Students are introduced to sustainable construction methods and trends, preparing them for environmentally responsible building practices.
- Project Management & Business Fundamentals: Instruction includes essential business and project management skills, cost estimation, legal and ethical considerations, and employability skills necessary for career advancement.

Emphasis on Career Readiness: In addition to technical training, the program places a strong focus on problem-solving, collaboration, personal management, and communication skills—critical competencies for success in the construction industry.

Year 2 Opportunities: Eligible second-year students may participate in work-based learning experiences, applying their skills in real-world job settings. Additionally, students have the opportunity to earn industry-recognized credentials, including:

- OSHA Safety Certifications
- Basic Construction Credentials as outlined by MDE

Successful completion of the two-year program allows students to earn articulated college credits through partnerships with colleges and universities across Michigan, providing a seamless transition into post-secondary education and careers in construction trades.

CRIMINAL JUSTICE AND PUBLIC SAFETY 43.0100

The Criminal Justice and Public Safety program at Hillsdale Area Career Center is designed to provide students with a foundational understanding of the American criminal justice system through a combination of hands-on activities, classroom instruction, simulations, and real-world applications. This program is offered in partnership with the Hillsdale County ISD, the Sheriff's Department, Jackson College, and Kellogg Community College, ensuring a curriculum that aligns with industry standards and post-secondary education pathways.

Program Overview: Students will gain an in-depth perspective on the organizational structure, policies, and procedures of the criminal justice system, including the interrelationships between law enforcement, the courts, corrections, and legal policies. The program prepares students for careers in public safety, law enforcement, emergency response, and corrections, while also laying the groundwork for further education in criminal justice.

Core Instructional Areas:

- Safety, Health & Environmental Systems: Students learn critical safety procedures and first responder skills, including CPR and emergency response techniques.
- Law Enforcement & Public Safety Fundamentals: Students develop an understanding of the roles and responsibilities of law enforcement personnel, criminal investigation methods, evidence collection, traffic control, and crime prevention strategies.
- Legal and Ethical Responsibilities: The program covers constitutional and Michigan laws, ethical decision-making, and policy application in law enforcement and public safety settings.
- Emergency Management & Crisis Response: Students are trained in emergency response protocols, crowd management, and procedures for handling inter-agency emergencies.
- Communication, Leadership & Teamwork: Emphasis is placed on developing public relations skills, leadership abilities, teamwork strategies, and the ability to communicate effectively in law enforcement settings.
- Mental Health & Public Welfare: Students will explore issues related to public and employee mental health, understanding crisis intervention techniques and behavioral assessment strategies.

Career Readiness & Certifications: The program integrates employability skills such as problem-solving, collaboration, personal management, and independent decision-making to ensure career readiness. These core competencies align with Michigan's Career Ready Practices, which include:

- Problem-Solving Skills (PS): Students will consistently apply critical thinking strategies to evaluate situations and make informed decisions.
- Collaboration Skills (CL): Students will work productively in teams, demonstrating cultural and global awareness to enhance cooperation in diverse environments.
- Personal Management Skills (PM): Students will learn to manage their health, well-being, and financial literacy to support career longevity and effectiveness in the workplace.
- Communication Skills (CM): Students will develop strong verbal, nonverbal, and written communication abilities necessary for clear and effective interaction in law enforcement and public safety.

Industry Certifications: Students who meet the required competencies will have the opportunity to earn industry-recognized credentials, including:

- National Basic 911 Dispatch Certification
- National Law Enforcement Certification

Year 2 Opportunities: Qualified second-year students (who meet the attendance and academic criteria and are at least 18 years old) may participate in a Criminal Justice Internship. This work-based learning experience allows students to apply their skills in real-world settings within law enforcement agencies and public safety departments.

Upon successful completion of the program, students may also earn articulated college credit through agreements with colleges and universities in Michigan, providing a seamless transition into post-secondary education and professional careers in criminal justice and public safety.

CYBERSECURITY & IT SYSTEM ADMINISTRATION 11.1001

The Computer Systems and Cybersecurity program at Hillsdale Area Career Center is an integrated program designed to equip students with essential skills in cybersecurity, system administration, and information technology fundamentals. This program prepares students for careers in IT infrastructure, cybersecurity defense, and network systems management, while also offering a strong foundation for post-secondary education.

Program Overview: Students will gain hands-on experience with hardware, software, operating systems, and cybersecurity principles to build, maintain, and protect computer networks and information systems. The program combines elements of Cybersecurity and System Administration, focusing on overlapping competencies while also providing exposure to specialized skills in both fields.

Core Instructional Areas:

- Information Technology Fundamentals: Students will develop a strong understanding of computer hardware, software configurations, troubleshooting techniques, and system operations.
- Cybersecurity Principles: Students will explore risk assessment, threat detection, ethical hacking, encryption, firewall configuration, and security best practices.
- System Administration & Network Management: Training includes server installation, virtualization, cloud computing, backup management, and IT infrastructure support.
- Digital Forensics & Incident Response: Students will learn how to investigate, analyze, and mitigate cybersecurity threats.
- Legal & Ethical Considerations in IT: The program covers laws, regulations, and ethical computing behaviors related to cybersecurity and system administration.

Career Readiness & Industry Certifications: Students will have opportunities to earn industry-recognized certifications that enhance career prospects and post-secondary credit opportunities. These include:

- CompTIA IT Fundamentals (ITF+), A+, Network+, Security+, Linux+
- Microsoft Certified: Azure Fundamentals
- Part 107 Commercial Drone Pilot License
- TestOut Credentials: IT Pro, PC Pro, Ethical Hacking, Linux Pro, Security Pro, CyberDefense Pro

Work-Based Learning & Advanced Pathways: Second-year students who meet academic and attendance criteria will be eligible for work-based learning opportunities in the field. Students may also choose to specialize in advanced cybersecurity, ethical hacking, cyber defense, or server administration through additional coursework and dual enrollment options.

Career Ready Practices: This program integrates key employability skills aligned with Michigan's Career Ready Practices, including:

- Problem-Solving (PS): Applying critical thinking to troubleshoot IT issues and security challenges.
- Collaboration (CL): Working in team environments to deploy and secure IT infrastructure.
- Personal Management (PM): Managing time, career goals, and professional responsibilities in IT.
- Communication (CM): Developing clear verbal and written communication skills essential for IT and cybersecurity roles.

Post-Secondary Opportunities: Students who successfully complete this program may earn articulated college credit through agreements with Jackson College and other Michigan colleges and universities, providing a seamless transition into higher education and career pathways in cybersecurity, IT support, and system administration.

Education Academy 13.0000

The Education Academy at Hillsdale Area Career Center is an innovative, hands-on two-year program designed for high school students interested in pursuing careers in teaching, early childhood education, and youth development. This program provides students with real-world teaching experiences, allowing them to work directly with preschool, elementary, and middle school students while developing the skills necessary for success in the field of education.

Program Overview: Students will participate in 80% work-based learning as cadet teachers, assisting in school-age classrooms and 20% classroom instruction focused on education theory and professional preparation. The program aligns with the curriculum requirements for the Child Development Associate (CDA) and Michigan Youth Development Associate (MIYDA) credentials.

Core Instructional Areas:

- Child Development & Learning Styles: Understanding cognitive, social, and emotional development in students of various ages.
- Teaching Strategies & Classroom Management: Learning instructional techniques, behavior management strategies, and lesson planning fundamentals.
- Educational Psychology & Group Dynamics: Analyzing how different learning environments impact student engagement and success.
- Writing & Documentation: Strengthening professional communication through the development of a Careers in Education Portfolio, where students will document their experiences, observations, and lesson planning progress.
- Classroom Experience: Applying skills through tutoring, leading small groups, assisting in lesson preparation, and eventually teaching a full lesson.

Career Readiness & Credentials: Students in the Education Academy will have the opportunity to earn industry-recognized credentials that provide immediate employment opportunities and pathways for further education:

- Child Development Associate (CDA) Credential: A nationally recognized certification that prepares students for careers in early childhood education and childcare.
- Michigan Youth Development Associate (MIYDA) Credential: Focused on youth mentoring, leadership, and afterschool program coordination.

These credentials enable students to enter the workforce immediately after graduation or earn articulated college credits, providing a seamless transition to post-secondary education programs in education, early childhood development, and youth services.

Work-Based Learning & Practical Experience: Students will gain extensive hands-on experience by working in preschool, elementary, and middle school classrooms. As cadet teachers, they will:

- Tutor and mentor students
- Assist with classroom preparation and special projects
- Supervise small groups and lead activities
- Develop and teach a full-class lesson

Some additional work with children outside of scheduled class time may be required to fulfill the required contact hours for credentialing.

Career Ready Practices: This program integrates Michigan's Career Ready Practices, ensuring students develop essential professional skills, including:

- Problem-Solving (PS): Applying critical thinking to educational challenges and classroom situations.
- Collaboration (CL): Working as part of a teaching team in school settings.
- Personal Management (PM): Demonstrating professionalism, time management, and leadership.
- Communication (CM): Strengthening verbal and written communication skills necessary for educators.

Post-Secondary & Career Opportunities: Graduates of the Education Academy will be prepared to enter the workforce as paraprofessionals, childcare specialists, and youth program coordinators, or pursue college degrees in education and related fields. Through articulation agreements with Michigan colleges and universities, students can earn college credits, accelerating their path toward a teaching career while benefiting from highly sought-after credentials that provide employment and educational advantages.

Students may be required to pass a background check and/or other safety and security measures required by partner organizations. Some program placements may require vaccinations, TB tests, and/or fingerprinting.

HEALTH SCIENCES I/HEALTH SCIENCES II 51.0000

The Health Science Program at Hillsdale Area Career Center is a two-year program designed to prepare students for careers in the dynamic and rewarding healthcare industry. This program provides students with the foundational knowledge, technical skills, and hands-on experience necessary to pursue careers in healthcare fields such as nursing, medical assisting, physical therapy, and other health-related fields. Through a combination of classroom instruction, laboratory practice, and clinical experience, students will gain a strong foundation of healthcare knowledge, patient care skills and professional medical practices. Students gain hands-on experience and prepare for industry-recognized certifications, ensuring they are workforce-ready upon completion.

Health Science I (Year 1): Building Core Healthcare Knowledge Students in Health Science I develop foundational skills and knowledge common to all healthcare occupations. Instruction includes:

- Medical Terminology & Medical Math: Essential healthcare vocabulary and calculations used in medical settings.
- Anatomy & Physiology: Understanding the human body and its functions.
- Ethical & Legal Practices: Exploring patient confidentiality, professional ethics, legal responsibilities in healthcare, and patient rights.
- Communication & Patient Interaction: Developing skills in medical documentation and patient-centered care.
- Health & Wellness Promotion: Exploring principles of nutrition, mental health, and disease prevention.
- Human Growth & Development: Studying developmental stages and their impact on healthcare.

Health Science II (Year 2): Certification In Health Science II, students have the opportunity to earn credentials in two areas, gaining hands-on training and earning professional certifications:

- Emergency response & First Aid: Training in First Aid, CPR, AED, and first responder procedures.
- Certified Nursing Assistant (CNA) Pathway:
    - Prepares students for the Certified Nurse Assistant (CNA) state exam.
    - Training in infection control, patient care, hygiene, and bedside assistance.
    - Participation in clinical rotations, where students gain real-world healthcare experience.
    - Students must qualify for clinicals by demonstrating proficiency in required skills and meeting attendance requirements.
- Certified Phlebotomy Technician (CPT) Pathway:
    - Prepares students for the Certified Phlebotomy Technician (CPT) exam.
    - Hands-on training in venipuncture techniques, lab procedures, and specimen collection.
    - Students must meet the required instructional hours and successful blood draw requirements to qualify for certification.

Career Readiness & Industry Certifications: Students completing both years of the Health Science Program will have the opportunity to earn industry-recognized credentials, including:

- Certified Nursing Assistant (CNA) Certification
- Certified Phlebotomy Technician (CPT) Certification
- Basic Life Support (BLS) & CPR Certification

These certifications provide immediate career opportunities and serve as stepping stones toward advanced healthcare professions.

Work-Based Learning & Hands-On Experience: Students participate in real-world healthcare settings, including:

- Clinicals in hospitals, nursing homes, and healthcare facilities.
- Simulated patient care environments.
- Exposure to various healthcare career fields through job shadowing and mentorships.

Career Ready Practices: The program integrates Michigan's Career Ready Practices, ensuring students develop essential professional skills, including:

- Problem-Solving (PS): Applying critical thinking to patient care and medical scenarios.
- Collaboration (CL): Working effectively as part of a healthcare team.
- Personal Management (PM): Demonstrating professionalism, reliability, and ethical decision-making.
- Communication (CM): Strengthening verbal and written communication skills for patient interaction and medical documentation.

Post-Secondary & Career Opportunities: Students who successfully complete this program can earn articulated college credit through agreements with Michigan colleges and universities, providing a seamless transition into nursing, allied health, medical assisting, and other healthcare careers. This program prepares students for direct entry into the healthcare workforce or further education in the medical field.

Students must abide by Health Industry requirements to participate in clinical experiences. This may include vaccinations, background checks, drug screening, etc.

Mechatronics 14.4201

The Mechatronics Program at Hillsdale Area Career Center is a two-year, STEM-based program designed to prepare students for careers in advanced manufacturing, robotics, automation, and engineering technology. By integrating mechanical, electrical, computer, and industrial engineering concepts, students gain hands-on experience in cutting-edge technology used in robotics, automated systems, and smart manufacturing.

Program Overview:

Students in this program learn to design, build, troubleshoot, and maintain complex mechatronic systems. The curriculum covers key engineering disciplines, providing students with real-world problem-solving skills that are in high demand in the manufacturing and engineering industries.

Core Instructional Areas:

- Electrical & Mechanical Systems: Students learn electrical motor controls, circuits, hydraulics, pneumatics, and mechanical components used in automation.
- Robotics & Automation: Hands-on experience with industrial robots, robotic programming, and automated manufacturing processes.
- Computer-Aided Design (CAD) & SolidWorks: Using SolidWorks and other CAD software, students develop technical drawings and 3D models.
- Programmable Logic Controllers (PLC): Students explore PLC programming, diagnostics, and industrial automation control.
- Computer Numerical Control (CNC): Introduction to machining operations, CNC programming, and machine tool technology.
- Diagnostics & Troubleshooting: Learning problem-solving techniques to maintain and repair mechatronic systems.
- Blueprint Reading & Geometric Dimensioning and Tolerancing (GD&T): Developing precision measurement and technical drawing interpretation skills.
- Mathematics for Manufacturing: Application of basic shop math, geometry, trigonometry, and manufacturing calculations.

Health & Safety:

- Shop Safety & OSHA Compliance: Students learn industry safety standards and procedures to ensure a safe work environment.

Year 2 Advanced Learning & Work-Based Opportunities:

In Year 2, students build on their foundational knowledge with more complex, project-based applications and on-the-job work-based learning experiences. Senior-level students meeting academic and attendance requirements will have the opportunity to participate in internships and industry placements.

Industry Certifications:

Students completing the two-year program will have the opportunity to earn industry-recognized certifications, including:

- OSHA 10 Certification (Occupational Safety & Health Administration)
- Certified SolidWorks Associate (CSWA) & Certified SolidWorks Professional (CSWP)
- FANUC I, FANUC II, FANUC iRVision Certifications
- Pneumatic Technology Certification
- Automation & Mechatronics Technician (AMT) Certification

Career Ready Practices:

This program integrates Michigan's Career Ready Practices, ensuring students develop essential employability skills, including:

- Problem-Solving (PS): Applying critical thinking and troubleshooting in automation and manufacturing settings.
- Collaboration (CL): Working effectively in teams to design and optimize engineering systems.
- Personal Management (PM): Demonstrating responsibility, work ethic, and professional behavior in technical careers.
- Communication (CM): Strengthening verbal and written technical communication skills is essential for engineering and manufacturing roles.

Post-Secondary & Career Opportunities:

Students who complete this program will be workforce-ready for careers in mechatronics, automation, and advanced manufacturing. Graduates may also earn articulated college credit through partnerships with Michigan colleges and universities, accelerating their path to higher education in engineering technology, robotics, and industrial automation.

WELDING, BRAZING, AND SOLDERING 48.0508

The Welding, Brazing, and Soldering Program at Hillsdale Area Career Center is a two-year, hands-on training program designed to prepare students for careers in welding, fabrication, and manufacturing. This program provides students with foundational and advanced skills in welding processes, metal fabrication, blueprint reading, and safety procedures, ensuring they are well-equipped for careers in the skilled trades.

Program Overview:

Students will gain experience in shielded metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW), oxy-fuel cutting (OFC), and plasma arc cutting (PAC). Safety is a priority, and students will be required to adhere to OSHA safety standards while working in the welding lab. The program integrates mathematics, blueprint reading, and welding symbols, ensuring students develop a well-rounded understanding of the industry.

Core Instructional Areas:

- Welding Safety & Shop Practices: Students learn essential shop safety, OSHA compliance, and proper handling of welding equipment.
- Welding Processes & Techniques: Hands-on training in SMAW, GMAW, GTAW, OFC, and PAC welding techniques.
- Blueprint Reading & Welding Symbols: Understanding technical drawings, welding symbols, and fabrication processes.
- Metal Fabrication & Layout: Students develop skills in cutting, shaping, and assembling metal structures based on engineering designs and project specifications.

- Math for Welding: Application of basic shop math, geometry, and trigonometry for precise metalwork.
- Welding Inspection & Testing: Understanding weld quality, inspection techniques, and identifying defects in welded joints.

Year 2 Advanced Training & Work-Based Learning:

In Year 2, students will:

- Advance their welding proficiency by completing complex weld joint designs in all positions.
- Fabricate metal components using technical drawings, layout diagrams, and verbal instructions.
- Prepare for industry-recognized certification exams.
- Participate in Work-Based Learning (WBL) experiences at local manufacturing and welding facilities, which may lead to employment opportunities after graduation.

Industry Certifications:

Students completing the two-year program will have the opportunity to earn industry-recognized credentials, including:

- OSHA 10 Certification (Occupational Safety & Health Administration)
- American Welding Society (AWS) SENSE Certification Level I & II
- FANUC Robotics Certification (for students pursuing automation and advanced manufacturing)

Career Ready Practices:

The program integrates Michigan's Career Ready Practices, ensuring students develop essential skills, including:

- Problem-Solving (PS): Applying troubleshooting techniques to welding and fabrication challenges.
- Collaboration (CL): Working effectively as part of a team in manufacturing and welding settings.
- Personal Management (PM): Demonstrating professionalism, time management, and responsibility.
- Communication (CM): Strengthening verbal and written communication skills for technical documentation and workplace interactions.

Post-Secondary & Career Opportunities:

Graduates of the Welding, Brazing, and Soldering Program will be prepared to enter the workforce as welders, fabricators, metalworkers, and manufacturing technicians. Students who complete the program may earn articulated college credit through partnerships with Michigan colleges and universities, providing a seamless transition into advanced manufacturing, welding technology, and engineering programs.

Less Than Class Size Programs

LTCS opportunities are provided to students based on interest and employee partnership availability. These programs are treated as CTE programs but are operated as an on-site apprenticeship where the business and industry partner takes on the role of teacher while the student is on the job site. Students need to meet the requirements set forth by HACC and the employer. LTCS programs are 2-year programs that may lead to industry certifications and additional certifications provided by the employer. LTCS programs require the student to complete a competitive application process through HACC and an interview process with the employee.

47.0603 - Collision Repair Technician

This course provides students with a basic understanding of the auto-body industry and the repair of vehicles. It is intended as the first step in a sequential series of courses leading to industry certification. Students in this course will participate in activities involving precision measurement, physics, and chemistry as they relate to auto body repair. Students will develop their technical skills by removing, repairing, and replacing automotive components on vehicles. Operation and management of the shop are also emphasized.

47.0604 - Automobile Technician (ASE Certified)

Through the Auto Technology program, students learn the various aspects of vehicle diagnosis, repair, and maintenance. Students will work in the areas of Engine Performance, Steering/ Suspension Systems, Engine Repair and Automatic/Manual Transmissions and Transaxles, Electrical/ Electronics, Brakes, Heating and Air Conditioning, and Tires and Wheels. Students who complete the Automotive Technology program may be eligible to take the Automotive Service Excellence (ASE) Student Certification examination. The ASE Student Certification is the first step in building a career as a service professional in the automotive industry.

It is the policy of the Hillsdale County Intermediate School District Board of Education that no person, based on race, color, religion, national origin or ancestry, age, sex, marital status or disability shall be discriminated against, excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination in any program or activity. Lack of English language skills** will not be a barrier to admission and participation in Career Technical Education programs. If anyone feels they have a valid basis for concern, please contact one of the persons listed below:

Mrs. Kim Svacha
Human Resources
Hillsdale County Intermediate School District
310 West Bacon Road
Hillsdale, MI 49242
Office: (517) 689-1802

Inquiries concerning persons with disabilities, such as accommodations, accessibility or qualifications, should be directed to:

Mrs. Kara Carwell
Director of Special Education
Hillsdale County Intermediate School District
310 W. Bacon Road
Hillsdale, MI 49242
Telephone: (517) 689-1812

**Interpreter service/support is available for those with limited English proficiency and/or hearing impairment by contacting the Hillsdale County Intermediate School District.