

DICKINSON-IRON INTERMEDIATE SCHOOL DISTRICT

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Dickinson-Iron Career and Technical Education Center

Course Descriptions **2025-2026**

Automotive Technology - NATEF Maintenance and Light Repair - Block 1, 2, & 3

Prerequisite: None

This program follows National Automotive Technicians Education Foundation (NATEF) standards for Maintenance and Light Repair. During the two-year program, students will learn shop and personal safety, tools and equipment, preparing vehicles for service and workplace employability skills. The program is broken down into modules to develop a general knowledge and understanding of the following topics: Shop Safety, Braking system, automatic and manual transmissions, HVAC systems, Engine Repair, Engine Performance, Suspension and Steering, Electrical systems. Upon completion of the two-year program students will have the base knowledge to pursue further education in the auto repair industry.

Articulated credit available.

Certifications: NATEF MLR, Michigan Mechanic Certification

Automotive Technology III:

Third course of study is open to students with permission of instructor and Tech Center Principal. Students may engage in advanced study on one of the eight areas of Automotive Licensing. Students may also be placed in a workplace learning site.

AP Cybersecurity 1: Networking Fundamentals, Block 1 & 2

Prerequisite: None

This course aligns with college curriculum in Networking and Cyber Security. It will introduce students to computer concepts in personal computer hardware and software, internet, security, networks and ethics. Students will learn how to use computer technology for professional and personal use and the skills needed to install, configure, and service hardware, operating systems, and applications. Students will also learn to configure stand alone or networked computer for reliability and security. Students will be prepared to take the AP Cybersecurity I exam.

Articulated credit available.

Certifications: *A+ Certification*

Up to 8 Bay College Credits available.

AP Cybersecurity 2: Cybersecurity Fundamentals - Blocks 1 & 2

Prerequisite: B or better in Computer Networking and Security I or instructor permission.

This course validates the knowledge and skills of networking professionals. It is a vendor-neutral certification that recognizes a technician's ability to describe the features and functions of networking components and to install, configure and troubleshoot basic networking hardware, protocols and services. This course continues building upon students' knowledge in computer networking and communication. It provides theoretical knowledge exploring both the hardware necessary to support computer networks and the software needed to utilize and secure those networks. Students will have hands-on training in designing, installing, and managing network devices. This includes Basic network topologies, network protocols, and local and wide-area networks. They will learn to troubleshoot problems across networks. Major topics include principles of Wide Area Networks, IP and TCP, routers, routing protocols and configurations, virtual LANs, network management, subnetting, design of LANs and WANs, and security issues. Students completing this course will prepare to take entry level certification exams. Students will be prepared to take the AP Cybersecurity 2 exam.

Students in this class are expected to compete in BPA in Computer Networking or Cisco

Administration.

Articulated credit available.

Certifications: *Network+ and CCNA, Route/Switch*

Up to 8 Bay College Credits available.

Computer Networking and Security III:

The third course of study is open to students with permission of the instructor and Tech Center Principal. Students may engage in advanced study working toward CISCO and other Industry certifications. Students may also be placed in a workplace learning site.

Students interested in Information Technology should consider the Dickinson-Iron Technical Early College program. For more information see page 7

AP Computer Science A: Programming in Java

Prerequisite: Algebra I

This one year course introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object- oriented programming and design using the Java programming language. Students will be prepared to take the AP Computer Science A test.

Construction Trades I: Blocks 1, 2 & 3

Prerequisite: None

This course provides students with a wide variety of hands-on experiences, all related to the multi-faceted construction industry. Students have opportunities to use a wide array of power and hand-held tools. Students will be able to learn and practice rough and finish carpentry; basic plumbing and electrical installation; insulation, drywall hanging and finishing; building codes and laws; and general construction safety inside our new Trades Center. Students will be able to practice on the grounds of the Tech Center leveling and layout instruments; proper installation techniques of both concrete flat work and masonry. Students will learn work place safety, how to read architectural drawings, construction materials, construction tools and equipment, common construction practices, codes and laws, heavy equipment/civil construction techniques, and construction business management.

Articulated credit available.

Certifications: OSHA10, Carpenters International

Construction Trades II: Blocks 1, 2, & 3

Prerequisites: Must have earned and 80% or higher in Construction Trades I and have missed no more than 16 days of chargeable absence in the Construction Trades I Course.

Students will be doing advanced study in construction trades. Students are prepared for entry-level employment skills in the construction field, entering a trade school apprentice program and for participation in post-secondary construction related programs such as construction management, construction engineering, architecture or becoming a licensed contractor.

Construction Trades III:

The third course of study is open to students with permission of the instructor and Tech Center Principal. Students may engage in advanced study working toward pre-apprenticeship training in a construction related field or work toward a state license exam. Students may be placed in a workplace learning site.

Education Careers I: - Block 1, 2 & 3

This course will introduce the student to the profession of teaching. It will allow students to explore and make informed decisions regarding a career in education. Students will be exposed to the process and choices necessary to become teachers; the challenges and opportunities of teaching; educational thought and history; and the organization, control, supervision, financing, and other aspects of American education. Students will assist a mentor teacher for hands-on experience to gain knowledge and an understanding of the field of education from a teacher perspective while enhancing communication skills by working with early childhood, elementary and/or middle school students. Working alongside a professional educator as a Teaching Assistant intern will help solidify your career goal before leaving high school. A criminal background check and TB test may be required.

Credentials: Child Development Associate or Michigan Youth Development Associate
Dual Enrollment Credit available

Education Careers II: -Block 1, 2 & 3

Prerequisite: Education Careers I

This course is for students interested in pursuing a career in education after high school. It is an introduction to the application of psychological principles and research to teaching and learning. It will expose the student to the processes of teaching and learning from the constructivism, social cognitive, cognitive, and behavioral perspectives. The study of teaching and learning is an integral part of the preparation of those who will become teachers. Understanding the development of the student, diversity, learning, motivation, classroom management, and instruction will make a teacher more effective and the student a better learner. Classroom field experience is an integral part of the class and a criminal background check and TB test may be required. Additional requirements may be necessary depending on the work site. Successful completion of Careers in Education 1 with a C or higher is required.

Dual Enrollment Credit available

Students interested in Education should consider the Dickinson-Iron Technical Early College program. For more information see page 7.

Health Occupations - Core: - Blocks 1 & 2

Prerequisite: None

Health Occupations at the Technical Education Center provides students with a core of medical theory and skills needed to enter the health care profession. Core tasks that all students study include: medical ethics, safety, asepsis, body structure and function, assessment, vital signs, communication, emergency procedures (including CPR certification), transporting/transferring/ambulating/positioning, nutrition, hygiene/personal care/comfort, basic medical terminology, medical math and career exploration. Students will experience work-based learning/clinical experiences that are completed in nursing homes, hospitals, and private health care offices throughout our community. Students are responsible for their own transportation to and from clinical sites (in some cases existing bus routes may be utilized). This course prepares students both for entry-level job positions and college programs. Students enrolling in this course are required to under-go a background check to verify their eligibility to participate in clinical placements and/or to pursue a career in the health field. In addition students must provide proof they are free of active tuberculosis (recent TB test) and have up to date immunizations. Some facilities now mandate, prior to clinical placement, students receive a full drug screen. If required, the cost of drug screens and background checks will be covered by the Technical Center. Dual enrollment credit is available to students who enroll with Bay College. Specific criteria must be met to earn this credit.

Articulated credit available.

Certifications: CPR, First Aid

Bay College Credits available

Health Occupations - Medical Terminology: - Block 3

Prerequisite: None

Health Occupations - Medical Terminology at the Technical Education Center is a college level body systems medical terminology course. Medical terminology is required to interact and function clinically in the health care field. This course is designed to provide a thorough investigation into suffixes, prefixes, and word components. Students will be able to utilize medical terminology as it relates to anatomical structures, pathophysiology and the general healthcare field. Dual enrollment credits are available to students who register with Bay College. Specific criteria must be met to earn these credits.

Articulated credit available.

Bay College Credits available

Health Occupations III:

The third course of study is open to students with permission of the instructor and Tech Center Principal. Students may engage in advanced study working toward a specific health care certification. Students may also be placed in a workplace learning site.

Mechatronics I: Blocks 1 & 2 Mechatronics II Block 3

Prerequisite: None

As the demand for technically trained engineers, industrial maintenance, and trades people grows, opportunities for high paying careers are unlimited. Manufacturing growth and retirement have created steady growth of high paying careers. This course will prepare you for these careers with state-of-the-art trainers to teach you technical skills. These skills include wiring an electrical panel, aligning a mechanical system with motors, shafts, belts, chains and gears, setting up and operating pneumatic and hydraulic systems, wiring for power distribution, programming Programmable Logic Controllers and FANUC robots, and designing and cutting on computerized CNC machines. There are visits to local industry and student competitions. Credential opportunities include OSHA 10 safety training, along with industry recognized credentials and post-secondary education opportunities. This course also offers Early Middle College and dual enrollment opportunities. Students from this course are successfully entering the manufacturing industry as engineers, technicians and trades, as well as the military.

Articulated credit available.

Up to 12 Bay College Credits available.

Mechatronics III:

The third course of study is open to students with permission of the instructor and Tech Center Principal. Students may engage in advanced study including Mechanical Drives, Level 2 PLC training, wiring with low voltage. Students may also be placed in a workplace learning site.

Students interested in Mechatronics should consider the Dickinson-Iron Technical Early College program. For more information see page 7.

Marketing I: - Blocks 1, 2, & 3

Prerequisite: None

This is an innovative course designed for students with an interest in marketing and advertising. Instruction will include an introduction to the fundamental marketing concepts through a variety of marketing topics and activities. There will be a strong emphasis on employability skills and communication in the work force. Students will learn how products are developed, branded, and sold to businesses and consumers. Students

will analyze industry trends and gain hands-on experience in the marketing of goods, services, and ideas. Students will be able to actively practice these theories through The Market Place (our school store). Topics covered will also include professionalism in the workplace, product planning and positioning, promotion, pricing, selling, economic issues, and the impact of technology on the marketplace. Guest speakers and field trips will also serve as a learning opportunity for students. An integral part of the program is participation in the school's business-related competition activities. These will offer marketing students opportunities in leadership, community service, and competitive events.

Articulated credit available.

Dual Enrollment Credit available

Marketing II: - Entrepreneurship: - Blocks 1, 2, &3

Prerequisites: Must have earned and 80% or higher in Marketing I and have missed no more than 16 days of chargeable absence in the Marketing I.

Students in Marketing II will need to apply to either be store managers or have transportation so they can be placed at a workplace learning site for a minimum of three days a week. They will be engaged in enhanced studies of marketing and business.

Marketing & Entrepreneurship III:

The third course of study is open to students with permission of the instructor and Tech Center Principal. Students may engage in advanced study including business management and entrepreneurship. Students will work toward a national retail certification. Students may also be placed in a workplace learning site.

Graphic Communications I & II: - Blocks 1, 2, & 3

Prerequisite: None

The Graphic Communications program at the Technical Education Center will prepare students for post-secondary college programs or entry into the work force in the production printing industry. Students will be exposed to and learn foundational skills relative to computer layout and design, press operation, bindery work and customer service. This is an excellent course for male or female students interested in computers, computer graphics, advertising, newspaper work, commercial art, photography, digital photography, social media communications, business communications and commercial production printing. With the advanced software provided in this program, students will be encouraged to use their creative skills in the design of advertisements, product labels, identity marks (logos), brochures, posters/flyers, presentations, etc. Students will also learn to edit and manipulate photographs as standalone work or to include in their design projects. Projects will be completed for area business and organizations providing students firsthand experience working with clients. A variety of program related equipment and processes common to the design and print industry will be included.

Articulated credit available.

Up to 8 Bay College Credits available.

Graphic Communications III:

The third course of study is open to students with permission of the instructor and Tech Center Principal. Students may engage in advanced study in graphic design including Adobe software. Students may also be placed in a workplace learning site.

Welding Technologies I: Blocks 1, 2, & 3

Prerequisite: Must be a Junior or Senior

The Welding Technologies program at the Technical Education Center prepares students for entry level job skills in the Welding field or participation in a community or technical college program. The instructional format is "self-paced", thus allowing students to progress at their own speed. Instruction is provided in safety, cutting and bending steel, shielded metal ARC welding, gas metal ARC welding (wire feed), gas tungsten ARC Welding (TIG), oxyacetylene torch cutting, project layout and construction, daily maintenance of shop and equipment and employability skills. Students are required to complete welding and cutting operations if time and skill level permit an instructor-approved project. Time in this course is split between lectures and hands-on activities including the completion of required welding operations, a required project, and a project of the student's choosing.

Up to 4 Bay College Credits are available

Welding Technologies II: - Blocks 1,2, & 3

Prerequisite: Must successfully complete Welding I

Students enrolled as a second-year student in the Welding Technologies program will receive advanced training in 5 welding processes and will participate in the completion of advanced projects as approved by the instructor. Students will learn how to operate a welding robotic cell, design in 2-D CAD software to learn how to develop a file used to cut on a plasma table. In some cases, students will be encouraged to participate in advanced student competitions. Students may also qualify for a work-based learning placement depending on their skill level and availability of placements.

Articulated credit available.

Up to 4 Bay College Credits are available.

Students interested in Welding should consider the Dickinson-Iron Technical Early College program. For more information see page 7.

Less-Than Class size CTE Program: - Blocks 1,2 & 3

Prerequisite: Approval of CTE Director

The Dickinson-Iron Tech Center can offer CTE programs to students who are interested in CTE programming that are too small to offer as a regular class. The programs must be on the State-Approved Career and Technical Education Less-Than-Class-Size Program list on the Michigan Department of Education Office of Career and Technical Education website. By state definition: "An unpaid state-approved CTE less-than-class-size (LTCS) program provides an opportunity to pupils who, because of unique circumstances, do not have a program available through a regular state-approved CTE program. Each program is contracted with business, industry, or private occupational schools as an alternative method of providing CTE not readily available in a public education institution." An example of a program run in recent years is Aviation held at the Ford Airport. Interested students should speak with the Tech Center Principal or Work-Based Learning coordinator the spring before they intend to enroll.

Dickinson-Iron Technical Early College: ***D.I.T.E.C.***

The Dickinson-Iron Technical Early College is partnering with Bay College to offer students in the Education, Welding, Mechatronics, and Networking/Cyber Security programs in an early college experience. DITEC is a grade 11-13 program. Students will complete some of their coursework at the Technical Center in grades 11 and 12 through articulated programs while continuing their required graduation classes at their local high school. They will complete their college requirements through Bay College. For more information please contact the Technical Center at 906-779-2697 or Bay College West at 906- 217-4301.