

CAREER & TECHNICAL EDUCATION

The career and technical education programs follow the Michigan Career Pathways model which focuses students on making informed career preparation decisions for college and career success. Career and technical education programs provide rigorous and relevant learning that enables students to effectively compete in an expanding global economy. Although each program offers unique opportunities, the hallmark of the career and technical education is to provide students with the technical skills, relevant academic skills, career employability skills and 21st century skills needed for success in both college and career. In order to best prepare students for post-secondary success, career and technical education programs have begun to offer free articulated college credit specific to the technical program. Additionally, specific programs have met the standard to offer the certain academic credits, specifically for the visual, performing, and applied arts and the fourth-year related math credit requirement. Please check individual course descriptions for more information.

PATHWAY: BUSINESS & MARKETING MANAGEMENT TECHNOLOGY

Program: Accounting, Finance & Financial Management Services

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Accounting 1 BU4200 Accounting 1 A BU4330 <i>Accelerated</i>	None	9-12	Full Year	Manual and computerized procedures of accounting are taught in this course. Students will learn the accounting cycle for a service business, merchandising business organized as a partnership, and a corporation. Microsoft Excel and QuickBooks will be used in this course. This course offers the potential to earn college articulation credit. This course meets the requirements for the 4 th year senior related math course. There is potential to earn free articulated college upon completion of this course. Membership in the student business organization, BPA, is an excellent extension to this course. This course may be taken at either a .2 or .3 level. The .3 level includes additional emphasis on the financial relationships of global business and ethical considerations related to accounting and finance. Additional assignments completed at the .3 level consist of critical analysis and response to real-world business and economic case studies.
Accounting 2 A BU4340 <i>Accelerated</i>	Accounting 1	10-12	Full Year	Advanced topics will be introduced in this course which includes: departmentalized accounting, cost accounting, not-for-profit organizations, partnerships, financial analysis, control systems, management accounting and advanced adjustments. Microsoft Excel and QuickBooks will be used in this course. Great course for those students who wish to continue their study of accounting to prepare for a business or accounting career. This course offers the potential to earn free college articulation credit. This course meets the requirements for the 4 th year senior related math course. Membership in the student business organization, BPA, is an excellent extension to this course.

Program: Business Administration, Management & Operations

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Computer Tech 1 BU3210 Computer Tech 1 A BU3310	Work-based learning prerequ. for business pathway	9-12	Semester	Students will develop proficient skill in word processing, spreadsheet, database and slide presentation applications. They will also cover photo editing and Internet research ethics. This course offers the potential to earn college articulation credit. Membership in BPA or DECA is an excellent extension to this course. This is a .2 level course, with a .3 option available. The .3 option will require additional projects and extended learning opportunities and the opportunity to test for Microsoft certification.
Computer Tech 2 BU3220	Computer Tech required.	9-12	Semester	This course includes advanced computer projects including emphasis on Internet research, desktop publishing, basic web page creation, video and

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Computer Tech 2 A BU3320	Work-based learning prerequisite for business pathway			picture editing, and a design portfolio. This course offers the potential to earn college articulation credit. This course meets the requirement for 1 semester of VPAA credit. Membership in BPA or DECA, is an excellent extension to this course. This is a .2 level course, with a .3 option available. The .3 option will require additional projects, extended learning opportunities and the opportunity to test for Microsoft Certification
Advanced Business 1 A BU5310B <i>Accelerated</i>	Computer Tech 1 & 2 highly recommended. Required if using this as work-based learning related course	12	Semester	This course is designed to introduce students to personal and business management, business law, leadership, teamwork, and human resources. Students are prepared for employment and education beyond high school through project-based learning, college and career exploration, real-world case studies, and fluency in current technology. This course offers the potential to earn college articulation credit. Membership in the student business organization, BPA, is an excellent extension to this course. This course is offered in Blended Enriched Virtual ONLY. See description here .
Advanced Business 2 A BU5320B <i>Accelerated</i>	Advanced Business 1 A CT1, CT2 required if using this as a work-based learning related course	11, 12	Semester	This course is a continuation of Advanced Business 1 A. Students are introduced to E-commerce, marketing, entrepreneurship, and financial management and investing. Current trends in domestic and international business are also explored. Students are prepared for employment and education beyond high school through project-based learning, college and career exploration, real-world case studies, and fluency in current technology. Advanced Business 2 A is an excellent course for students considering studying business or entering a field in which many professionals start small businesses, such as medical, dental, engineering, and architecture careers. This course offers the potential to earn college articulation credit. Membership in the student business organization, BPA, is an excellent extension to this course. This course is offered in Blended Enriched Virtual ONLY. See description here .

Program: Digital/Multimedia and Information Resource Design

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Digital/Multimedia Design A BU4350 <i>Accelerated</i>	None	11, 12	Semester	Students will learn web site creation, design, posting and marketing. Also included are basic HTML, XHTML, Photoshop, visual editing, and design software such as Dreamweaver. This course meets the requirements for 1 semester of the VPAA credit. This course offers the potential to free earn college articulation credit. Membership in the student business organization, BPA, is an excellent extension to this course.
Advanced Digital/Multimedia Design H BU4470 <i>Honors</i>	Digital/MM Design	11, 12	Semester	This course covers advanced web concepts including animation and embedded media such as Flash and video. Web graphics and/or web programming languages will be emphasized as students create attractive, efficient web sites for clients. This course meets the requirements for 1 semester of the VPAA credit. This course offers the potential to earn free college articulation credit. Membership in the student business organization, BPA, is an excellent extension to this course.

Program: Marketing, Sales & Services / Marketing & Entrepreneurship

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Marketing BU3200 Marketing A BU3300 <i>Accelerated</i>	None	9-12	Full Year	Everything you need to know before going it on your own: career development, economics, leadership, management skills, business law and personal financing. As entrepreneurs-in-training, you will create, market, and sell your ideas for a profit to be donated to a charity. Membership in BPA or DECA is an excellent extension to this class. This course meets the requirement for 2 semesters of 4 th year related math credit and VPAA credit. Students have the potential to earn free college articulated credit. This is a .2 level course, with a .3 option available. The .3 option will require additional reading from books on related topics.

Merchandising Operations BU3230 Merchandising Operations A BU3330 <i>Accelerated</i>	None	9-12	Semester	Students become entrepreneurs. After researching the market, students will create business plans for a business of their choice. Students will learn about financing, promotion, product planning and human resource management. Membership in BPA or DECA is an excellent extension to this class. This course meets the requirement for 1 semester of 4 th year related math and VPAA credit. Students have the potential to earn free college articulated credit. This is a .2 level course, with a .3 option available. The .3 option will require additional reading from books on related topics.
Sales Management BU3240 Sales Management A BU3340 <i>Accelerated</i>	None	9-12	Semester	An ideal follow up to Merchandising. Students explore buyer behavior, product information, customer relations, and management of sales staff. Membership in BPA or DECA is an excellent extension to this class. Students have the potential to earn free college articulated credit. This course meets the requirement for 1 semester 4 th year related math and VPAA credit. This is a .2 level course, with a .3 option available. The .3 option will require additional reading from books on related topics.
IB Business Management SL A BU5300 <i>Accelerated</i>	None	10-12	Full Year	Students will learn the dynamic nature of business and organizations throughout the world. They will explore how and why organizations are formed; how to read and analyze financial statements; roles of individuals and groups in business; various marketing strategies; and current challenges facing business organizations. This course meets the requirement for VPAA credit. Students have the potential to earn free college articulated credit. Membership in clubs such as BPA or DECA is an excellent extension to this class.

PATHWAY: ENGINEERING/MANUFACTURING & INDUSTRIAL TECHNOLOGY (Industrial Ed)

Program: Automotive Technology

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Car Care IE3230	None	9-12	Semester Dow High only	This course provides students with basic knowledge of automobile care and maintenance, as well as critical elements of safety when working in automobiles. Other topics include tool identification and use, tires, engines, oil changes, brakes and suspension, steering, welding, service lift, acetylene torch, driveline, and career exploration. This course includes time in the automotive technology lab working with vehicles.
Auto Technology 1 A IE4330 <i>Accelerated</i>	Car Care or pre-test	11-12	Full Year 2-hour course Dow High only	Engine Performance and Brakes. Students learn automotive technology under NATEF National Skill standards and an ASE certified instructor. Concentration is on engine performance and brakes. This course meets the requirements for 4 th year senior related math and also offers the potential to earn college articulation credit. Offered only at Dow High, but available to all students.
Auto Technology 2 A IE5330 <i>Accelerated</i>	Auto Tech 1	12	Full Year 2-hour course Dow High only	Electrical and Suspension & Steering. Senior students continue to learn automotive technology, with concentration on electrical/electronic systems and suspension & steering. Students will also have the opportunity to apply for a work-based learning experience at an automotive dealership or independent facility. This course meets the requirements for 4 th year senior related math. This course also offers the potential to earn college articulation credit. Offered only at Dow High, but available to all students.

Program: Engineering

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Introduction to Engineering Design A IE3300	None	9-12	Full Year	This is an excellent preparatory course for those students pursuing careers in technical, design, and engineering fields. Students build 2D and 3D computer aided design (CAD) skills while solving a series of design challenges. This course meets the requirements for 4 th year math-related and VPAA credit. This

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
				course also offers the potential to earn Delta articulation credit. Membership in the high school FIRST Robotics team is an excellent extension of this course.
Principles of Engineering A/H A = IE3310 H = IE3410	Introduction to Engineering Design A or CAD 1 Completers	10-12	Full Year	Through engaging and challenging problems, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem solving, research, and design. Students also learn strategies for design process documentation, collaboration, and presentation. This course meets the requirements for 4th year math-related and VPAA credit. This course offers the potential to earn Delta articulation credit. Membership in the high school FIRST Robotics team is an excellent extension of this course.
Engineering Capstone H IE6400	Successful completion of Intro to Engineering, and Principles of Engineering, OR Engineering Teacher recommendation		Full Year	In this class the knowledge and skills acquired throughout the engineering sequence come together as students work at an accelerated pace to identify an issue and then research, design, and test a solution. Students are expected to complete projects independently, work outside of class, and demonstrate an in-depth knowledge of the strategies and techniques of modern engineering design processes. Students apply the professional skills they have developed to document the process and adhere to standards of post-secondary programs and careers. This course meets the requirements 4th year math-related and VPAA credit. Membership in the high school FIRST Robotics team is an excellent extension of this course.

Program: Construction Trades – offered through Midland High but open to all students

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Introduction to Trades IE3210	None	9-12	Semester Midland High only	This is an introduction to the skilled trades and construction related careers including hands-on projects in carpentry, drafting and design, electricity, homebuilding, sheet metal forming, welding and woodworking. Membership in the Building Trades or Welding Club is an excellent extension to this class. This course meets the requirement for one semester of VPAA credit.
Building Trades IE4210 2 hour	Intro to Trades Recommended	10-12	Full Year 2-hour course Midland High only	This two-hour block course is an on-site experience where students build a house from the ground up and are involved in all aspects of the residential construction industry. Skills in carpentry, masonry, drywall, and wiring are covered. This course is offered only at Midland High School but is available to all students. This course meets the requirements for 4 th year related math as well as the VPAA credit requirement. This course also offers the potential to earn college articulation credit. Membership in the Building Trades Club is an excellent extension to the course.
Advanced Building Trades IE5350 2 hour	Successful completion of Building Trades	11, 12	Full Year 2-hour course Midland High only	This two-hour block course is an on-site experience where students build a house from the ground up and are involved in all aspects of the residential construction industry. Students in this course have the opportunity to advance their skills and gain strong leadership skills. This course is offered only at Midland High School but is available to all students. This course meets the requirements for 4 th year related math as well as the VPAA credit requirement. This course also offers the potential to earn college articulation credit. Membership in the Building Trades Club is an excellent extension to the course.
Woodworking 1 IE3240	None	9-12	Full Year Midland High only	Develop basic knowledge and skills in woodworking and carpentry using basic hand tools and power equipment. This course meets the requirement for the VPAA credit. Offered only at Midland High but available to all students. Membership in the Building Trades Club is an excellent extension to the course.
Woodworking 2 IE4340	Woodworking 1	10-12	Full Year Midland High only	Advanced skills with woodworking and carpentry tools and equipment. Includes furniture construction and refinishing techniques. This course meets the requirement for the VPAA credit. Offered only at Midland High but available to all students. Membership in the Building Trades Club is an excellent extension to the course.

Program: Welding Technology – offered through Midland High but open to all students

COURSE TITLE	PREREQUISITE	GRADE LEVEL	SEMESTER OR FULL YEAR	CONTENT
Introduction to Trades IE3210	None	9-12	Semester Midland High only	This is an introduction to the skilled trades and construction related careers including hands-on projects in carpentry, drafting and design, electricity, homebuilding, sheet metal forming, welding and woodworking. Membership in the Welding Club or Building Trades club is an excellent extension to this class. This course meets the requirement for one semester of VPAA credit.
Hobby & Art Welding* IE3220	None	9-12	Semester Midland High only	For students interested in personal project construction or sculpting of metal projects. This course meets the requirement for one semester of VPAA credit. Offered at Midland High only but available to all students. Membership in the Welding Club is an excellent extension to this class.
Welding Technology 1* IE4220	None	10-12	Full Year Midland High only	Covers areas in oxyacetylene gas, metallic arc, TIG and MIG welding. This course also offers the potential to earn college articulation credit. This course meets the requirements for the 4 th year related math and VPAA courses. Offered at Midland High only but available to all students. Membership in the Welding Club is an excellent extension to this class.
Welding Technology 2* IE5320 IE5340 2-hour option	Welding Technology 1	11-12	Full Year (1-hr course with 2-hr option) Midland High only	Students will learn to weld in all positions on sheet metal and plate. Training is also given in TIG and MIG welding. This course also offers the potential to earn college articulation credit. This course meets the requirements for the 4 th year related math and VPAA courses. Offered at Midland High only but available to all students. Membership in the Welding Club is an excellent extension to this class.
Welding Technology 3* IE6220 2 hour	Welding Technology 2	12	Full Year Dual Enrollment	This 2-hour course is offered via dual enrollment at Delta College. Students will advance their skills in TIG and MIG welding and have the opportunity to begin pipe welding. Students must provide their own transportation to this course. Membership in the Welding Club is an excellent extension to this class.

***Note:** Welding safety regulations require all students to wear specific safety equipment such as hard-soled work boots and cotton clothing. The school will provide safety glasses, welding jackets, helmets and gloves.