



At Fraser, Career & Technical Education is designed as a career preparation system that provides learners with experiences, knowledge, and skills that will prepare them to choose and obtain employment upon high school completion. Students gain core academic skills, employability skills, technical and job-specific skills through work-based learning, field trips, guest speakers, job shadowing and internships. Students who choose to take CTE courses choose to sharpen their skills and focus on their future careers.

CTE Courses prepare students for College, Trade School, and the Work Force.

Fraser High School offers 15 State Approved CTE Programs

- **Computer Programming**
 - Computer Programming/Programmer** pg. 7
- **Web Design**
 - Digital Multimedia and Information Resources Design** pg. 12
- **Cybersecurity**
 - Computer & Information Systems Security/Information Assurance** pg. 16
- **Business Administration**
 - Business Administration, Management and Operations** pg. 21
- **Marketing**
 - Specialized Merchandising, Sales and Marketing Operations, Other** pg. 26
- **Insurance**
 - Insurance** pg. 32
- **Accounting**
 - Finance and Financial Management Services** pg. 37
- **Culinary Arts**
 - Cooking & Related Culinary Arts, General** pg. 49
- **Family and Consumer Sciences**
 - Family & Consumer Sciences** pg. 56
- **Future Teacher**
 - Education General** pg. 62
- **Health Science**
 - Health Sciences/Allied Health/Health Sciences, General** pg. 66
- **Fashion Design**
 - Fashion Design** pg. 74
- **Electronics/Robotics**
 - Electrical/Electronics Equipment Installation & Repair General** pg. 81
- **Mechanical Design**
 - Mechanical Design** pg. 86
- **Welding**
 - Welding, Brazing & Soldering** pg. 99

Other Offerings

- **Business, Microsoft Office Specialist** pg. 42
- **Cooperative Education/Work-Based Learning** pg. 44
- **Manufacturing Technology** pg. 79
- **Small Engine Technology** pg. 93
- **Woodworking** pg. 95

Career Technical Student Organizations

- **Cyberpatriot**
- **DECA**
- **FIRST Robotics**
- **HOSA Future Health Professionals**
- **NTHS National Technical Honor Society**
- **SkillsUSA Welding, Culinary, Family & Consumer Science & Education General**

Nondiscrimination Policy - Students, Parents and Citizens of the School District

In compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, the Elliott-Larsen Civil Rights Act of 1976, and the Persons with Disabilities Civil Rights Act of 1976, it is the policy of the School District that no person shall, on the basis of race, color, religion, national origin or ancestry, gender, age, disability, height, weight, or marital status be illegally excluded from participation in, be denied the benefits of, or be subjected to discrimination during any program, activity, service or in employment.

In accordance with Federal regulations, the School District has appointed the Director, Human Resources, as the Title VI, Title IX, Section 504/ADA, and Age Discrimination Act Coordinator. Any questions, suggestions, or complaints regarding a possible or perceived violation of this policy of nondiscrimination should be directed to this administrator, who is responsible for administering the nondiscrimination grievance procedure:

**Mr. Kerry Terman, Director of Human Resources /Title IX Coordinator,
33466 Garfield Road, Fraser, MI 48026; 586.439.7000.**

Inquiries related to discrimination on the basis of “student” disability should be directed to:

**Ms. Jane Sturgell, Special Education Director, 33466 Garfield Rd, Fraser, Michigan
48026, 586.439.7045, Jane.Sturgell@FraserK12.org**

Fraser Public Schools

Annual Notice of Career & Technical Education Offerings

Each year, Fraser Public Schools offers Career & Technical Education programs at Fraser High School. These programs are designed to prepare youth for a broad range of employment options & rigorous post-secondary training through technical training, learning in context to their career ambitions, & building positive work ethic under the guidance of certified teachers, counselors, & cooperative education coordinators. Students who successfully complete certified programs enjoy work-based learning experiences, earn articulated credits at local colleges, participate in student organization engagements, & demonstrate technical skills mastery while earning professional certifications. The following is a list of programs currently offered to the Ramblers of Fraser High School.

MECHANICAL DESIGN

- Beginning CAD/Drafting
- Vocational CAD/Drafting
- Individualized CAD/Drafting

WELDING & MANUFACTURING

- Welding Technology
- Vocational Welding Technology
- Manufacturing Technology
- Advanced Manufacturing Technology

ELECTRONICS TECHNOLOGY

- Electronics Technology
- Vocational Electronics Technology

ENGINE TECHNOLOGY

- Engine Technology
- Advanced Engine Technology

WOOD TECHNOLOGY

- Wood Technology
- Advanced Woodworking

FAMILY & CONSUMER SCIENCES

- Surviving After High School
- Foods and Nutrition
- Parenting
- Life Management Skills
- Family Living

EDUCATION

- Future Teacher

FASHION DESIGN

- Design for Living
- Fashion Design

HEALTH SCIENCES

- Intro to Health Sciences
- Hybrid Medical Terminology
- Sports Medicine
- Medical & Health Science Careers
- Foundations of Patient Care
- Health Science Capstone*

COMPUTER SCIENCES

- Creative Coding w/ Games & Apps
- Java Programming
- Cybersecurity
- Advanced Cybersecurity
- AP Computer Science Principles
- Web Design
- Advanced Web Design

BUSINESS ADMINISTRATION, MANAGEMENT, & OPERATIONS

- Business Leadership and Technology

MARKETING, SALES, & SERVICE

- Marketing
- Sports & Entertainment Marketing
- Retail Store Operation
- Retail Store Management

FINANCIAL MANAGEMENT & INSURANCE

- Accounting
- Personal Finance & Insurance

CULINARY ARTS

- Professional Baking
- Professional Cooking
- Culinary Practice
- Restaurant Management

WORK-BASED LEARNING

- Pre-Apprenticeship Programs
- Cooperative Education Placements
- Job Shadowing
- Company Tour Field Trips
- Guest Speakers & Mentors

A*New Course Added for 2021-2022

Engaged industry leaders drive the implementation of our Career & Technical Education programs. For further information about partnering to support the valuable programs, please contact:

Mr. Brent Brasure, Career and Technical Education Director, Fraser High School, 34270 Garfield Rd, Fraser, MI 48026, 586-439-7206, Brent.Brasure@FraserK12.org

It is the policy of the Fraser Public Schools that no person shall, on the basis of race, color, religion, national origin or ancestry, sex, disability, age, height, weight, genetics or marital status be excluded from participation in, be denied the benefits of, or be subjected to discrimination during any program, activity, service, or in employment. Any employee or member of the community of Fraser Public Schools believing to be discriminated against should contact:

Mr. Kerry Terman, Director of Human Resources /Title IX Coordinator, 33466 Garfield Rd, Fraser, Michigan 48026, 586-439-7025, Kerry.Terman@FraserK12.org

Inquiries related to discrimination on the basis of "student" disability should be directed to:

Ms. Jane Sturgell, Special Education Director, 33466 Garfield Rd, Fraser, Michigan 48026, 586.439.7045, Jane.Sturgell@FraserK12.org



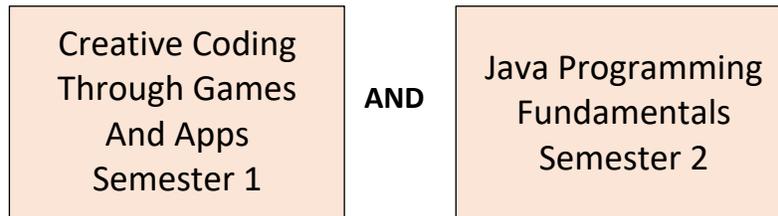
BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY



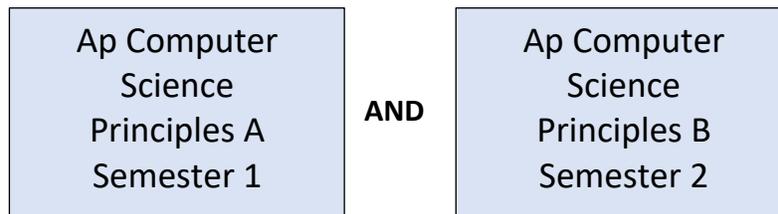
11.0201 Computer Programming/Programmer

Course Sequence

First Year



Second Year



Java Programming Fundamentals HS4042 GRADE: 9-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in HS4043 – Hybrid Coding Through Games and Apps

COREQUISITES: If you take this course, you must also take HS4043 – Hybrid Coding Through Games and Apps

Java Programming Fundamentals is a second-semester course that continues the study of computer science with fundamental topics that include problem solving design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Python and Java language.

Hybrid Coding Through Games and Apps HS4043 GRADE: 9-12 CREDIT: 0.5

COREQUISITES: If you take this course, you must also take HS4042 – Java Programming Fundamentals.

Hybrid Coding Through Games and Apps is a first-semester course designed for an introduction to programming. Students learn how to code by working in a real software development environment to design, program, and publish mobile apps and games.

AP Computer Science Principles A HS4051 GRADE: 10-12 CREDIT: 0.5

Type: Advanced Placement

PREREQUISITE: Successful completion (“C” or better) in HS4030 - Advanced Web Design or HS4042 Java Programming Fundamentals

COREQUISITE: If you take this course, you must also take HS4052 – AP Computer Science Principles B

This class offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science. This program is supported by in-class industrial professionals through our Microsoft TEALS partnership.

AP Computer Science Principles B HS4052 GRADE: 10-12 CREDIT: 0.5

Type: Advanced Placement

PREREQUISITE: Successful completion (“C” or better) in HS4051 – AP Computer Science Principles A

COREQUISITE: If you take this course, you must also take HS4051 – AP Computer Science Principles A

See course description for HS4051 AP Computer Science A

Computer Programming/Programmer - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Cybersecurity A, Web Design, Hybrid Coding Through Games & Apps, or AP Computer Science Principles A
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Cybersecurity B, Advanced Web Design, Java Programming Fundamentals, AP Computer Science Principles B
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Advanced Cybersecurity A, Cybersecurity A, Web Design, Hybrid Coding Through Games & Apps, or AP Computer Science Principles A
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Advanced Cybersecurity B, Cybersecurity B, Advanced Web Design, Java Programming Fundamentals, or AP Computer Science Principles B
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Advanced Cybersecurity A, Cybersecurity A, Web Design, Hybrid Coding Through Games & Apps, or AP Computer Science Principles A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Advanced Cybersecurity B, Cybersecurity B, Advanced Web Design, Java Programming Fundamentals, or AP Computer Science Principles B
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Cooperative Education General Business A, Web Design, Hybrid Coding Through Games & Apps, AP Computer Science Principles A, Cybersecurity A, or Advanced Cybersecurity A
- Elective
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Cooperative Education General Business B, Web Design, Hybrid Coding Through Games & Apps, AP Computer Science Principles B, Cybersecurity B, or Advanced Cybersecurity B
- Elective
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Business Communication
- Segment 2: Ethics, Legal, Copyright, Safety
- Segment 3: Career and Employability (Entrepreneurship)
- Segment 4: Information Technology Fundamentals (C)
- Segment 5: Logic and Problem Solving (B)
- Segment 6: Beginning Application Development (E,F) (Coding)
- Segment 7: Advanced Application Development (Database, Files) (J)
- Segment 8: Leadership and Teamwork
- Segment 9: Programming Fundamentals and Syntax(D)
- Segment 10: Needs Assessment /Project Planning(A,B)
- Segment 11: Debug and Software Testing(G) (Quality Assurance) (H)
- Segment 12: Program Maintenance (I) (Enhancements)

Articulation Agreements

Fraser High School has entered into articulation agreements with a number of post-secondary education partners. Students who complete all classes within the Fraser CTE programs listed below are eligible to receive college credit at no additional cost to the student. Please see CTE Director, Brent Brasure, for details regarding acquiring these credits following graduation as each agreement has specific requirements or reference the links below.

[Washtenaw Community College](#)

[Ferris State University](#)

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTOS work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTOS help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTOS activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.



[Michigan DECA](#)

[CyberPatriot](#)



National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

Microsoft TEALS

UBX Cloud

IT Specialist

Henry Ford Health System

Oakland Community College

Baker College

Cengage Learning

Northwood University

Wayne State University

Whitlam Group

Maxcis Self-Insurance Connexion

TACOM

Kelley Services

Northwood University

Oracle

Verizon

US Army Detroit Arsenal

Macomb Community College

IAC Group N.A.,

MICE

Bankrate

AIM Computer Solutions

General Motors

Chrysler Headquarters

Kyda Tech

Global LT

MI Court of Appeals

Ford Motor Company

Gallagher

Detroit Cornice & Slate



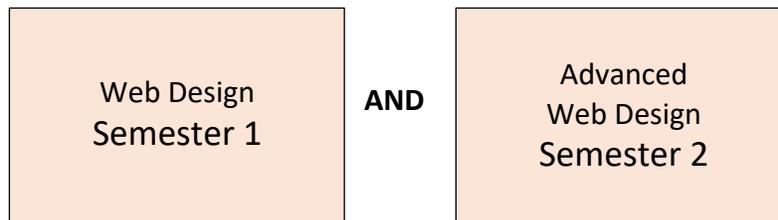
BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY



11.0801 Digital/Multimedia and Information
Recourses Design

Course Sequence

First Year



Web Design	HS4020	GRADE: 9-12	CREDIT: 0.5
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COREQUISITE: If you take this course, you must also take HS4030–Advanced Web Design.

Web Design is a one semester class. This course will provide students with basic web development and web design knowledge. While using the Adobe Creative Cloud Suite, students will learn how to utilize design elements such as color theory, typography and digital graphics to create a finished product with a unique style.

Advanced Web Design	HS4030	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4020-Web Design.

COREQUISITE: If you take this course, you must also take HS4020-Web Design.

Advanced Web Design is a one semester class. This second course in web design is offered for the student wishing to increase their skills in this area. Students will create, test and evaluate websites using advanced applications of web design and development skills through the use of the Adobe Creative Cloud Suite.

WEB DESIGN - 4 YEAR PLAN OF STUDY

GRADE 9	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 9A, Accelerated English 9A or Academic Literacy 9A • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology A • Modern World History • Physical Education A • French 1A or Spanish 1A • CTE Elective: Web Design • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 9B, Accelerated English 9B or Academic Literacy 9B • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology B • 20th Century History • Physical Education B • French 1B or Spanish 1B • CTE Elective: Advanced Web Design • SMART
GRADE 10	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 10A, Hybrid-English 10A, or Accelerated English 10A • Geometry A or Accelerated Geometry A • Chemistry I or Physics I • American History I or Hybrid-AP US History A • French 2A or Spanish 2A • CTE Elective: Hybrid Coding Through Games & Apps • Elective • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 10B, Hybrid-English 10B, or Accelerated English 10B • Geometry B or Accelerated Geometry B • Chemistry I or Physics I • American History II or Hybrid-AP US History B • French 2B or Spanish 2B • CTE Elective: Java Programming • Elective • SMART
GRADE 11	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 11A, AP English Language & Composition 11A or Hybrid-English 11A • Algebra 2A or Accelerated Algebra 2A • Environmental Science I • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Business Leadership and Technology 1 • Elective • Elective • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 11B, AP English Language & Composition 11B or Hybrid-English 11B • Algebra 2B or Accelerated Algebra 2B • Chemistry II, Physics II, or Environmental Science II • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Business Leadership and Technology 2 • Elective • Elective • SMART
GRADE 12	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op General Business A • Elective • Elective • Elective • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op General Business B • Elective • Elective • Elective • SMART

Segments of Instruction

- Segment 1: Project Management
- Segment 2: Legal, Ethical, Design and Safety Standards
- Segment 3: Graphic Design
- Segment 4: Customer Service and Planning
- Segment 5: Digital Communication
- Segment 6: Development Tools
- Segment 7: Web Design and Layout
- Segment 8: Web Development
- Segment 9: Web Administration
- Segment 10: Multimedia Production
- Segment 11: Web Testing and Evaluation
- Segment 12: Technical Support

Articulation Agreements

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[Ferris State University](#)

[Kirtland Community College](#)

[Macomb Community College](#)

[Washtenaw Community College](#)

Career Technical Student Organizations

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[Michigan DECA](#)



National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

Freelance Art & Design
Oracle
Macomb Community College
Village Green Management

Momentum
AucHaus
Game Stop

destruction. Cybersecurity B is a continuation of Cybersecurity A with more advanced skills in information and network security. It will continue to focus on cybercrime, security principles, technologies, and procedures to defend networks. Students will build technical and professional skills through interactive, multimedia content, lab activities, and multi-industry case studies to prepare them for careers in cybersecurity.

Cybersecurity B	HS4271	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4270 Cybersecurity A.
COREQUISITES: If you take this course, you must also take HS4270 - Cybersecurity A.

Cybersecurity B is a one semester class. See course description for HS4270 - Cybersecurity A.

Advanced Cybersecurity A	HS4274	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) HS4271 Cybersecurity B
COREQUISITES: If you take this course, you must also take HS4275 – Advanced Cybersecurity B

The cybersecurity field is the fastest growing field in the IT industry and is the most needed profession in the United States. Students will continue to gain competitive skills required to administer, analyze, and secure applications, networks, and devices. Certifications that can be obtained include:

- Microsoft MTA
- Linux+
- NET+
- CISSP
- CCNA
- Security+
- CEH
- Cisco Cyber Essentials

Advanced Cybersecurity B	HS4275	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4270 Cybersecurity A and HS4271 Cybersecurity B
COREQUISITES: If you take this course, you must also take HS4275 – Advanced Cybersecurity A

See course description for HS4274 – Advanced Cybersecurity A

CYBERSECURITY - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Cybersecurity A
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Cybersecurity B
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Advanced Cybersecurity A
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Advanced Cybersecurity B
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Hybrid Coding Through Games & Apps
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Java Programming Fundamentals
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: AP Computer Science Principles A
- CTE Elective: Co-op General Business A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: AP Computer Science Principles B
- CTE Elective: Co-op General Business B
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Principals of Information Security
- Segment 2: Strategic Infrastructure
- Segment 3: Perimeter Defense
- Segment 4: Computer Forensics
- Segment 5: Safety Procedures
- Segment 6: Operational Procedures
- Segment 7: Personal Skills and Ethics
- Segment 8: Network Management and Design
- Segment 9: Law and Regulations
- Segment 10: Teamwork and Leadership
- Segment 11: Career Ready Practices
- Segment 12: Computer Hardware & Software Tools

Articulation Agreements

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[Baker College](#)

Career Technical Student Organizations

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Michigan DECA



CyberPatriot



National **Technical**
Honor Society

National Technical Honor Society

Industry Partners:

Microsoft TEALS
UBX Cloud
IT Specialist
Henry Ford Health System
Oakland Community College
Baker College
Cengage Learning
Northwood University
Wayne State University
Whitlam Group
Maxcis Self-Insurance Connexion
TACOM
Kelley Services
Gallagher
Verizon
Detroit Cornice & Slate

General Motors
Oracle
US Army Detroit Arsenal
Macomb Community College
IAC Group N.A.,
MICE
Bankrate
AIM Computer Solutions
General Motors
Chrysler Headquarters
Kyda Tech
Global LT
MI Court of Appeals
Ford Motor Company
MI Court of Appeals



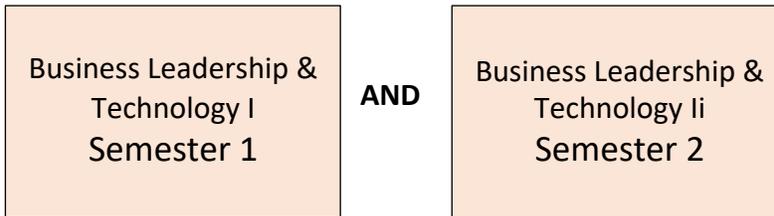
BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY



52.0299 Business Administration, Management and Operations

Course Sequence

First Year



Business Leadership & Technology I HS4231 GRADE: 9-12 CREDIT: 0.5

COURSE NOTE: If you take this course, you must also take HS4232 – Business Leadership and Technology II.

Business Leadership & Technology I is a one semester class. This course is for students interested in pursuing the business career pathway. This project-based course is designed to introduce students to the various areas of the business world. Using web-based tools, students will have the opportunity to explore the basics of business through the study of Project Management; Law, Ethics, and Government Regulations; International Business; Information and Technology Application; Data Administration and Management; and Career and Professional Development. Business Leadership & Technology I and II offer students' unique areas of focus.

Business Leadership & Technology II HS4232 GRADE: 9-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in HS4231 – Business Leadership and Technology I.

COURSE NOTE: If you take this course, you must also take HS4231 – Business Leadership and Technology I.

Business Leadership & Technology II is a one semester course. This course is for students interested in pursuing the business career pathway. This project-based course is designed to introduce students to the various areas of the business world. Using web-based tools, including simulations, students will have the opportunity to explore additional segments of the business world: Business Planning and Entrepreneurship; Human Resources/Personnel Administration; Operations and Quality Management; Financial Analysis and Economics; Communications; Business Management and Leadership; and Career and Professional Development. Business Leadership & Technology I and II offer students’ unique areas of focus.

GRADE 9**1ST SEMESTER**

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Electives: Marketing I, Sports & Entertainment Marketing, or Business Leadership & Technology I
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Electives: Marketing I, Sports & Entertainment Marketing, or Business Leadership & Technology II
- SMART

GRADE 10**1ST SEMESTER**

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Electives: Business Leadership & Technology I, Accounting 1A, Marketing I, Web Design, Microsoft Office Specialists I or Cybersecurity A
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Electives: Business Leadership & Technology II, Accounting 1B, Marketing I, Sports & Entertainment Marketing, Advanced Web Design, Microsoft Office Specialist II or Cybersecurity B
- Elective
- SMART

GRADE 11**1ST SEMESTER**

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Electives: Business Leadership & Technology I, Hybrid Personal Finance & Insurance A, Marketing 1, Sports & Entertainment Marketing, Web Design, Advanced Web Design, Microsoft Office Specialist I, Cybersecurity A, Advanced Cybersecurity A, Retail Store Operations A, or Accounting 1A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Electives: Business Leadership & Technology II, Hybrid Personal Finance & Insurance B, Marketing 1, Sports & Entertainment Marketing, Web Design, Advanced Web Design, Microsoft Office Specialist II, Cybersecurity B, Advanced Cybersecurity B, Retail Store Operations B, Accounting 1B, or Accounting 2
- Elective
- Elective
- SMART

GRADE 12**1ST SEMESTER**

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Electives: Cooperative Education General Business A, Retail Store Management A, Business Leadership & Technology I, Hybrid Personal Finance & Insurance A, Marketing 1, Sports & Entertainment Marketing, Web Design, Advanced Web Design,

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Cooperative Education General Business B, Retail Store Management B,, Business Leadership & Technology II, Hybrid Personal Finance & Insurance B, Marketing 1, Sports & Entertainment Marketing, Web Design, Advanced Web Design, Microsoft Office Specialist

Segments of Instruction

- Segment 1: International Business
- Segment 2: Information Technology and Application
- Segment 3: Data Management and Administration
- Segment 4: Business Planning and Entrepreneurship
- Segment 5: Human Resources / Personnel Administration
- Segment 6: Operations and Quality Management
- Segment 7: Financial Analysis and Economics
- Segment 8: Communications
- Segment 9: Business Management and Leadership
- Segment 10: Law, Ethics, and Government Regulations
- Segment 11: Project Management
- Segment 12: Career and Professional Development

Articulation Agreements

Fraser High School has entered into articulation agreements with a number of post-secondary education partners. Students who complete all classes within the Fraser CTE programs listed below are eligible to receive college credit at no additional cost to the student. Please see CTE Director, Brent Brasure, for details regarding acquiring these credits following graduation as each agreement has specific requirements or reference the links below.

[Baker College](#)

[Washtenaw Community College](#)

[Ferris State University](#)

Career Technical Student Organizations

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Industry Partners:

Brain Wave Consulting
Game Stop
Oracle
Inner Circle Photography

13th Hour Tattoos
Old Navy
AucHaus
Momentum
Macomb Community College



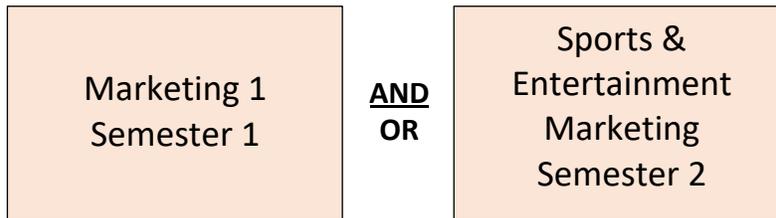
BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY



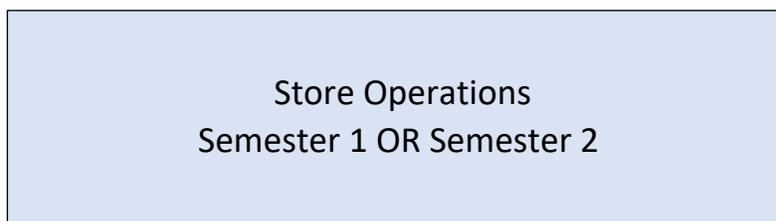
52.1999 Specialized Merchandising, Sales and Marketing Operations, Other

Course Sequence

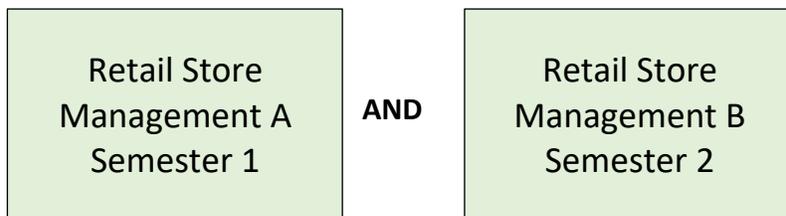
First Year



Second Year



Third Year



Marketing 1	HS4360	GRADE: 9-12	CREDIT: 0.5
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COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

Marketing 1 is a one semester class. This is the introduction to the marketing program. The student will gain an understanding of the basic marketing concepts including: the foundations and functions of marketing; selling; promotion and social media; pricing; financial analysis, channel management; marketing information management, strategic market planning, product service management; economics, and human resources, management and careers.

Sports & Entertainment Marketing	HS4365	GRADE: 9-12	CREDIT: 0.5
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COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

Sports & Entertainment Marketing is a one semester class. This course is designed to teach students marketing and management concepts associated with the sports and entertainment industries. Students will learn techniques and practices used to make this a multibillion-dollar per year industry. Strategies used by successful sports and entertainment marketing and management firms and businesses will be evaluated. This class will prepare students for advanced studies in marketing/management and create an inside look at how and why the sports and entertainment industry operates. Other areas that will be investigated will be the promotion of professional sports, marketing history of professional sports, sponsorships, as well as the movie/concert industry.

Retail Store Op	HS4400	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITITE: Successful completion (“C” or better) in HS4360–Marketing 1 **or** HS4365-Sports & Entertainment Marketing.

Retail Store Op is a one semester class. The focus of learning will be on the operation of the school store and several school-based enterprises. Students will participate in all aspects of the daily operation of the school store, existing school-based businesses as well as the creation of new school-based enterprises. Entrepreneurship will be taught throughout the semester. Students need to be self-starters and be able to work both independently and as a part of a team.

Retail Store Management A	HS4406	GRADE: 11-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4400 Retail Store Operation
COREQUISITES: If you take this course, you must also take HS4407 Retail Store Management B

COURSE NOTE: Enrollment for this class is limited and is by course instructor signature only.

Retail Store Management students must have room in their schedule to be in Retail Store Management class during both blocks, all year. Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

This advanced lab-based course is designed for students to learn and utilize the skills of marketing, merchandising, and operations management. Students will examine the operations of an efficiently run retail enterprise and assume authentic on-the-job responsibilities. Throughout this course, students will learn how to operate a cash register, make sales, create displays, maintain the store, order inventory, and keep financial records.

Retail Store Management B	HS4407	GRADE: 11-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4406 Retail Store Management A

COURSE NOTE: Enrollment for this class is limited and is by course instructor signature only. Retail Store Management students must have room in their schedule to be in Retail Store Management class during both blocks, all year. Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

See course description for Retail Store Management A – HS4406.

MARKETING - 4 YEAR PLAN OF STUDY

GRADE 9	
1ST SEMESTER <ul style="list-style-type: none"> • English 9A, Accelerated English 9A or Academic Literacy 9A • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology A • Modern World History • Physical Education A • French 1A or Spanish 1A • CTE Elective: Marketing I • SMART 	2ND SEMESTER <ul style="list-style-type: none"> • English 9B, Accelerated English 9B or Academic Literacy 9B • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology B • 20th Century History • Physical Education B • French 1B or Spanish 1B • CTE Elective: Sports & Entertainment Marketing • SMART
GRADE 10	
1ST SEMESTER <ul style="list-style-type: none"> • English 10A, Hybrid-English 10A, or Accelerated English 10A • Geometry A or Accelerated Geometry A • Chemistry I or Physics I • American History I or Hybrid-AP US History A • French 2A or Spanish 2A • CTE Elective: Retail Store Operations A • Elective • SMART 	2ND SEMESTER <ul style="list-style-type: none"> • English 10B, Hybrid-English 10B, or Accelerated English 10B • Geometry B or Accelerated Geometry B • Chemistry I or Physics I • American History II or Hybrid-AP US History B • French 2B or Spanish 2B • CTE Elective: Retail Store Operations B • Elective • SMART
GRADE 11	
1ST SEMESTER <ul style="list-style-type: none"> • English 11A, AP English Language & Composition 11A or Hybrid-English 11A • Algebra 2A or Accelerated Algebra 2A • Environmental Science I • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Retail Store Management A • Elective • Elective • SMART 	2ND SEMESTER <ul style="list-style-type: none"> • English 11B, AP English Language & Composition 11B or Hybrid-English 11B • Algebra 2B or Accelerated Algebra 2B • Chemistry II, Physics II, or Environmental Science II • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Retail Store Management B • Elective • Elective • SMART
GRADE 12	
1ST SEMESTER <ul style="list-style-type: none"> • English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op General Business A • Elective • Elective • Elective • SMART 	2ND SEMESTER <ul style="list-style-type: none"> • English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op General Business B • Elective • Elective • Elective • SMART

Segments of Instruction

- Segment 1: International Business
- Segment 2: Information Technology and Application
- Segment 3: Data Management and Administration
- Segment 4: Business Planning and Entrepreneurship
- Segment 5: Human Resources / Personnel Administration
- Segment 6: Operations and Quality Management
- Segment 7: Financial Analysis and Economics
- Segment 8: Communications
- Segment 9: Business Management and Leadership
- Segment 10: Law, Ethics, and Government Regulations
- Segment 11: Project Management
- Segment 12: Career and Professional Development

Articulation Agreements

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[Baker College](#)

[Macomb Community College](#)

[Ferris State University](#)

Career Technical Student Organizations

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[Michigan DECA](#)



National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

Meller Marketing
REACT
Macomb Community College

Momentum
Rooftop Candle Co.
ATS Printing



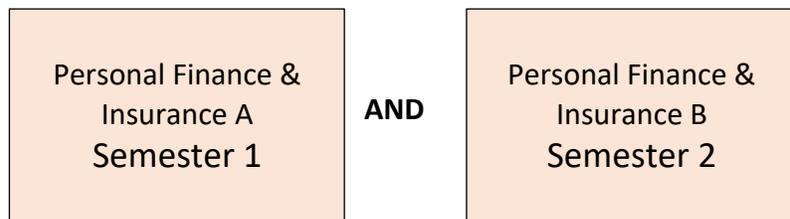
BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY



52.1701 Insurance

Course Sequence

First Year



Hybrid Personal Finance and Insurance A HS4257 GRADE: 11-12 CREDIT: 0.5

COREQUISITES: If you take this course, you must also take HS4258 - Hybrid Personal Finance and Insurance B.

COURSE NOTE: Each semester of this course will fulfill .5 credits of the required 12th grade math-related credit.

Hybrid Personal Finance and Insurance A is a one semester class. Show me the money! This project-based course is designed to help students practice money management and investment strategies while learning key skills that will help create a strong financial future. Using online simulations and other web-based tools, students will experience real world scenarios and discover what it means to be financially savvy. Students will design an investment portfolio as well as determine the need for all aspects of insurance. Additional topics include savings, taxes, and employee income as well as workplace success.

Hybrid Personal Finance and Insurance B HS4258 GRADE: 11-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in HS4257 - Hybrid Personal Finance and Insurance A.

COREQUISITES: If you take this course, you must also take HS4257 – Hybrid Personal Finance and Insurance A.

COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

Hybrid Personal Finance and Insurance B is a one semester class. Throughout this course students will work through hands-on activities and creative projects to explore the world of personal finance and insurance at an advanced level. Topics learned throughout the course will help students avoid financial stress and build economic wealth. Students will gain knowledge in personal decision-making skills such as purchasing an automobile, renting an apartment, obtaining a mortgage, and budgeting for other major life events. Throughout the semester, students will design personal and household budgets as well as demonstrate knowledge of debit, credit management, and online banking. This course is also designed to give students a comprehensive overview on the advanced principles of risk management and insurance.

INSURANCE - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Business Leadership & Technology I
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Business Leadership & Technology II
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Business Leadership & Technology I or Accounting 1A
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Business Leadership & Technology II or Accounting 1B
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Hybrid Personal Finance and Insurance A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Hybrid Personal Finance and Insurance B
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op General Business A
- Elective
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op General Business B
- Elective
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Risk Management
- Segment 2: Government Regulation
- Segment 3: Commercial Insurance
- Segment 4: Underwriting
- Segment 5: Property & Casualty
- Segment 6: Financial Planning
- Segment 7: Ethics
- Segment 8: Legal/Claims
- Segment 9: Applied Academics
- Segment 10: Career Development (Employability, Teamwork, Leadership, Entrepreneurship)
- Segment 11: Business and Financial Management
- Segment 12: Technology and Safety

Articulation Agreements

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[Lansing Community College](#)

Career Technical Student Organizations

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Industry Partners:

Brown + Brown of Detroit
Farm Bureau Insurance
Gardner Insurance Agency
Northwestern Mutual
Oakland Community College
Baker College
Cengage Learning
Northwood University
Preferred Benefits Co.
Thyssen Krupp Steel NA
General Motors

Hudson Muma, Inc.
Montagne Insurance Agency
Meadowbrook Insurance Group, Inc.
Thrivent
John T. Burke Insurance Agency
Maxcis, Inc.
Peabody Insurance
The Beran Group
Aitken & Ormond Ins.
Macomb Community College

career in any business career pathway. Using hands-on accounting software, students will have the opportunity to learn the basics of accounting including the accounting equation, analyzing transactions, use of T-accounts, recording transactions in general journal, and posting to a general ledger. Students will also learn to produce financial statements such as balance sheets and income statements as well as write checks and reconcile a bank statement.

Accounting 1B	HS4302	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4301 – Accounting 1A.
COREQUISITES: If you take this course, you must also take HS4301 - Accounting 1A.
COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

Accounting 1B is a second semester class. See course description for HS4301.

Accounting 2	HS4311	GRADE:10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS4302 – Accounting 1B.
COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit

Accounting 2 is a one semester class. This course is strongly recommended for students who wish to pursue a career in business or finance. Students in advanced accounting will learn to analyze financial records and prepare fiscal period reports. Partnerships, corporations, cost accounting, and payroll procedures will also be covered. Students will increase their knowledge and skills using accounting software to solve accounting tasks. Current business trends will be discussed and explored throughout this course.

ACCOUNTING - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Business Leadership & Technology I
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Business Leadership & Technology II
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Accounting 1A or Business Leadership & Technology I
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Accounting 1B or Business Leadership & Technology II
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Accounting 1A, Hybrid Personal Finance & Insurance A, or Business Leadership & Technology I
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Accounting 1B, Hybrid Personal Finance & Insurance B, Business Leadership & Technology II, or Accounting 2
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op General Business A, Accounting 1A, Hybrid Personal Finance & Insurance A or Business Leadership & Technology I
- Elective
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op General Business B, Accounting 1B, Hybrid Personal Finance & Insurance B, Business Leadership & Technology II, or Accounting 2
- Elective
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Introduction to Accounting & Financial Reporting
- Segment 2: Cost-Volume-Profit Analysis
- Segment 3: Accounting Information System
- Segment 4: Accounting for Sales and Inventory
- Segment 5: Time Value of Money
- Segment 6: Accounting for Fixed Assets
- Segment 7: Accounting for Long-term Liabilities and Equity
- Segment 8: Financial Statements
- Segment 9: Applied Academics
- Segment 10: Career Development (Employability, Teamwork, Leadership, Entrepreneurship)
- Segment 11: Business and Financial Management
- Segment 12: Technology and Safety

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[Macomb Community College](#)

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[Washtenaw Community College](#)

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTOS work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTOS help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTOS activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.



[Michigan DECA](#)



National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

AmeriTrust Group Inc.
Detroit Regional Chamber
UHY
General Motors
Cantella & Co
Preferred Benefits Company

Huntington Bank
Rolling Buddies
Detroit PAL
Baker College
Macomb Community College



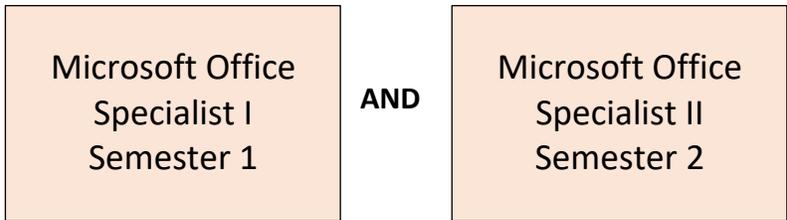
BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY



Business

Course Sequence

First Year



Microsoft Office Specialist I HS4220 GRADE: 9-12 CREDIT: 0.5

Microsoft Office Specialist I is a one semester class. To succeed in today’s competitive job market, students will need to demonstrate their skills and expertise in all technology fields. Microsoft Office Specialist Certifications are highly respected and valued in any working environment. This course will cover the skills necessary to prepare students to take the MOS Specialists Certification Exams in Word, Excel, PowerPoint, and Access throughout the semester. Microsoft Industry Certifications can be earned in the course.

Microsoft Office Specialist II HS4221 GRADE: 9-12 CREDIT: 0.5

PREREQUISITE: Successful completion of HS4220 - Microsoft Office Specialist I.

Microsoft Office Specialist II is a one semester class. This course continues the study of the Microsoft Office Suite at a higher level. Through the use of Microsoft Word, Excel, and Access students will develop advanced application and presentation skills. Integration applications using the Microsoft Office Suite are also emphasized. Students will have the opportunity to continue completing the advanced MOS Specialists Certification Exams throughout the semester.



Arts & Communications



Business Management
Marketing & Technology



Health Science



Engineering Manufacturing &
Industrial Technology



Human Services

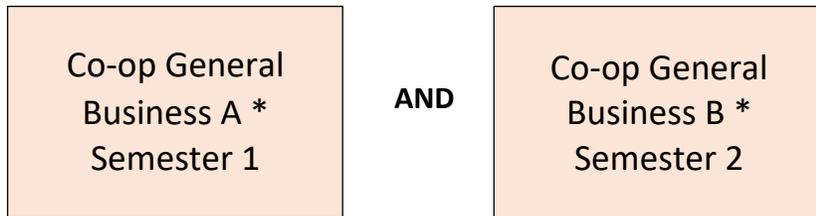


Natural Resources &
Agriscience

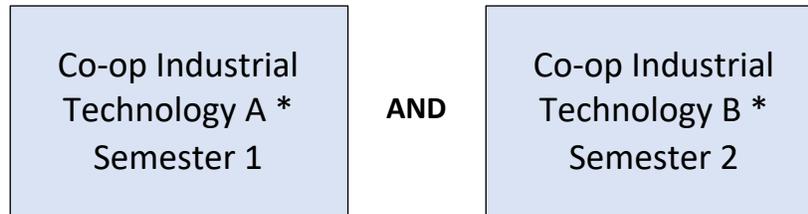


Cooperative Education

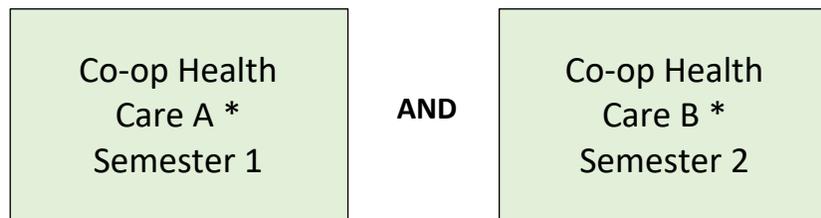
Senior Year



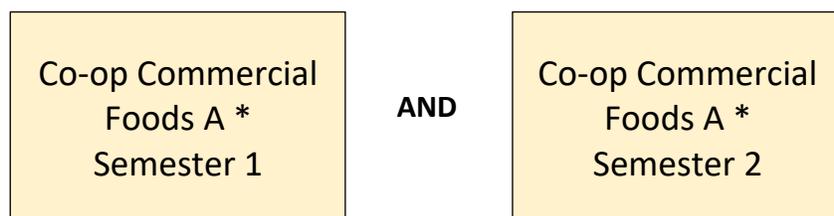
Senior Year



Senior Year



Senior Year



*All Co-op classes must be taken concurrently with “related” CTE Course. See CTE Director for details.

Application must be submitted to the co-op coordinator no later than March 1 of the student’s junior year. Application must include a transcript and attendance record.

Cooperative Education Guidelines and Rules

Co-op is an extension of your academic and Career/Technical Education course of study at Fraser High School. Simply having a job or planning on getting a job does not qualify you for Cooperative Education.

The cooperative education method of instruction provides students with an opportunity to extend their preparation for employment beyond the classroom. It is critical that the paid employment is directly related to the career and technical education program curriculum.

It is important for you to understand that the job forms an integral part of your educational process and that Fraser High School is not acting as a placement service for students desiring part-time work, nor should it be an excuse for early release from school.

The purpose of cooperative education employment is to help students enrolled in career and technical education programs to:

- Apply learned occupational competencies
- Receive specialized occupational training
- Practice employability skills, including the application of good work habits and attitudes

Specific Guidelines/Rules:

- The job you start with in September is the job you should have at the end of the school year.
- You must be enrolled in an approved career and technical education class for a minimum of at least 120 hours per year, in addition to the time required for the part-time job.
- You must maintain a full schedule of 6 classes per semester, not including co-op.
- If you lose or leave your job for any reason, you may lose full credit for co-op.
- You need to be employed for an average of not fewer than 10 hours per week for the duration of your training agreement.
- You are required to attend all co-op meetings, generally held on early dismissal days.

Cooperative Education (Co-op) General Business A **HS4502**
GRADE: 12 CREDIT: 1

COREQUISITES: If you take this course, you must also take HS4503 - Cooperative Education (Co-op) General Business B

Co-op (Cooperative Education) is a student-learner opportunity where a 12th grade student may receive credit for working at a job related to his or her career pathway. The student must be employed by the end of the second week of school.

- Student-learners participating in cooperative education must be concurrently enrolled in an approved career and technical education related class, or an approved general education program.
- The student-learner shall be employed for an average of 10 hours per week for the duration of the student-learner’s training agreement.
- Cooperative education is available in the following areas of study: Business Information Technology, General Business/Marketing

Cooperative Education (Co-op) General Business B **HS4503**
GRADE: 12 CREDIT: 1

COREQUISITES: If you take this course, you must also take HS4502 - Cooperative Education (Co-op) General Business A

See course description for HS4502.

Co-op Industrial Technology A **HS5230** **GRADE: 12** **CREDIT: 1**

PREREQUISITE: 12th Grade standing and a C+ average, and a minimum of one full credit in his/her co-op subject area. Students MUST also be enrolled in an Industrial Tech class during their senior year.

COURSE NOTE: An application must be completed in the spring for admission to this program. Deadline March 1st of Junior year.

See description for Course 4500 under Business Services and Technology section for guidelines.

Co-op Industrial Technology B **HS5231** **GRADE: 12** **CREDIT: 1**

See description for Course 4500 under Business Services and Technology section for guidelines.

Co-op Health Care A **HS5653** **GRADE: 12** **CREDIT: 1**

PREREQUISITE: Successful completion (“C” or better) in HS5622 -Medical and Health Science Careers B, approval of Health Sciences teacher AND co-op coordinator.

COREQUISITES: If you take this course, you must also take HS5631 - Patient Care Foundations A. If you take this course, you must also take HS5632 – Patient Care Foundations B. If you take this course, you must also take

HS5654 - Co-op Health Care B

COURSE NOTE: Must be taken concurrently with Foundations of Patient Care

This is a 2-semester course for students seriously interested in a health care career. Students must concurrently take Patient Care Foundations and Co-op. Interested students must apply for admission to this program prior to March 1 of their junior year. Students may be responsible for finding their own job in a health care setting which will enhance and add to knowledge received with the classroom. See Course 4500 for Guidelines & Rules and see Health Sciences Instructor for other specific department guidelines.

Please note: Availability of Training Sites are extremely limited!

CERTIFICATIONS:

Students enrolled in classes in the Health Science Department are eligible to receive the following certifications:

- American Red Cross Standard First Aid
- American Red Cross or American Heart Association CPR/AED
- National Health Science Assessment

POST SECONDARY OPPORTUNITIES

Upon completion of the programs the student has the training, skills and experience to realistically consider one of the following programs:

1. Four-year college degree in a health field
2. One or Two-year community college program in a health field
3. One or Two-year technical school
4. Job entry

Co-op Health Care B	HS5654	GRADE: 12	CREDIT: 1
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COREQUISITES: If you take this course, you must also take HS5653 - Co-op Health Care A

See course description for HS5653

Co-op Commercial Foods A	HS6557	GRADE: 11-12.	CREDIT: 1
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PREREQUISITE: Successful completion (“C” or better) in HS6246 Professional Cooking Skills B HS6246, HS6232 - Professional Baking or HS6256 - Culinary Practice their senior year.

COREQUISITES: If you take this course, you must also take HS6558 - Co-op Commercial Foods B

An application must be completed prior to March 1st of the junior year. All co-op students MUST be enrolled in a related foods vocational class. See Course Description 4500 on page 41 for guidelines.

Co-op Commercial Foods B HS4502 GRADE: 11-12 CREDIT: 1

PREREQUISITE: C+ or better in Professional Cooking Skills, Professional Baking and/or Culinary Practice their senior year.

COREQUISITES: If you take this course, you must also take HS6558 - Co-op Commercial Foods B

An application must be completed prior to March 1st of the junior year. All co-op students MUST be enrolled in a related foods vocational class. See Course Description 4500 on page 41 for guidelines.



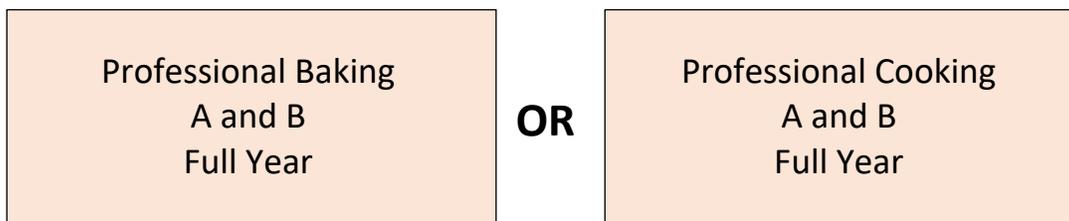
HUMAN SERVICES



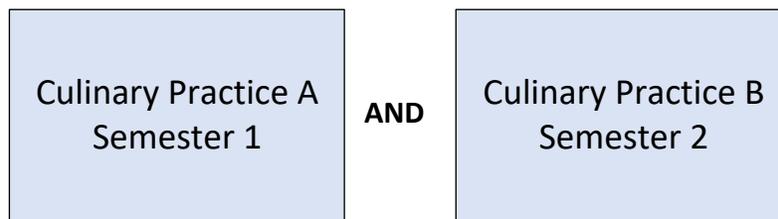
12.0500 Cooking and Related Culinary Arts,
General

Course Sequence

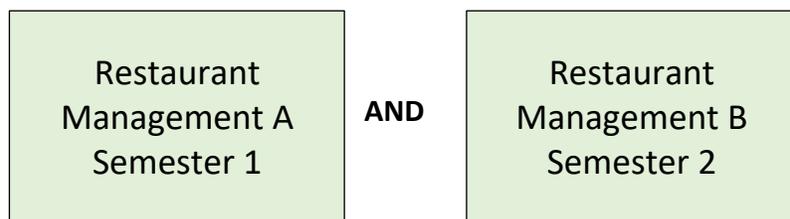
First Year



Second Year



Third Year



Professional Baking A	HS6231	GRADE: 9-12	CREDIT: 0.5
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COREQUISITES: If you take this course, you must also take HS6232 - Professional Baking B
COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit. The second year of this sequence is Culinary Practice HS6255.

Professional Baking is the first year of a two-year course sequence. Students in this class will be preparing breads, cakes, cookies, and other pastries while learning the skills needed to successfully work in a commercial bakeshop. Students in this class will focus on production for our student run restaurant “The Fraser Grille”. In the second semester of bakeshop we will be stressing advanced pastries and cake decorating.

Professional Baking B	HS6232	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS6231 - Professional Baking A
COREQUISITES: If you take this course, you must also take HS6231 - Professional Baking A
COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

See course description for HS6231.

Professional Cooking Skills A	HS6245	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS6245 to proceed to HS6246
COREQUISITE: If you take this course, you must also take HS6246 - Professional Cooking Skills B
COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit. The second year of this course sequence is Culinary Practice HS6255.

Professional Cooking Skills A is the first year of a two-year course sequence. This is the “backbone” of the student run restaurant “The Fraser Grille”. This class does most of the cooking and all of the preparation for the restaurant. This class gives students the necessary experience to obtain advanced “back of the house” positions in the food service industry. Students will spend the first 10 weeks of class learning sanitation, kitchen safety, culinary terms, skills, and techniques necessary to run the kitchen. The remainder of the year will be spent preparing food for “The Fraser Grille” and other culinary events.

Professional Cooking Skills B	HS6246	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS6245 - Professional Cooking Skills A
COREQUISITES: If you take this course, you must also take HS6246 - Professional Cooking Skills B

COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

See course description for HS6245.

Culinary Practice A	HS6255	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in Professional Baking HS6231 & HS6232 or Professional Cooking HS6245 & HS6246 year one to be eligible for this class. Successful completion (“C” or better) in HS6255 to proceed to HS6256.

COREQUISITES: If you take this course, you must also take HS6256 - Culinary Practice B

This is the second year of a two-year course sequence. “The Fraser Grille” is a restaurant within Fraser High School. This class is meant to be an introduction to the restaurant trade with an emphasis on realistic on-the-job training. Students will spend the first 10 weeks of class learning sanitation, kitchen safety, culinary terms, skills, and techniques necessary to run the dining room and kitchen. In the second semester this class the restaurant will be open for business during class time. We will be stressing the different skills necessary for each job in the restaurant.

Culinary Practice B	HS6256	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in Professional Baking HS6231 & HS6232 or Professional Cooking HS6245 & HS6246 year one to be eligible for this class.

COREQUISITE: If you take this course, you must also take HS6255 - Culinary Practice A

COURSE NOTE: Successful completion will fulfill .5 credits of the required 12th grade math-related credit.

See course description for HS6255.

Restaurant Management 6A	HS6249	GRADE: 11-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in Professional Baking HS6231 & HS6232 or Professional Cooking HS6245 & HS6246. Successful completion (“C” or better) in HS6249 to proceed to HS6250.

COREQUISITES: If you take this course, you must also take HS6250 - Restaurant Management 6B and HS6253 Restaurant Management 5A.

COURSE NOTE: Enrollment for this class is limited and is by course instructor signature only. Restaurant management students must have room in their schedule to be in restaurant class during both blocks, all year (6A & 6B and 5A & 5B).

Students will be acting as managers and trainers for “The Fraser Grille”. During this year long class, they will be learning advanced culinary skills along with management skills. Students who would like to be considered for this class should be considering a career in Food Service.

Restaurant Management 6B	HS6250	GRADE: 11-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in Professional Baking HS6231 & HS6232 or Professional Cooking HS6245 and HS6246. Successful completion (“C” or better) in HS6249 to proceed to HS6250

COREQUISITE: If you take this course, you must also take HS6249 - Restaurant Management 6A and HS6253 - Restaurant Management 5A.

COURSE NOTE: Enrollment for this class is limited and is by course instructor signature only! Restaurant management students must have room in their schedule to be in restaurant class during both blocks, all year (6A & 6B and 5A & 5B).

Students will be acting as managers and trainers for “The Fraser Grille”. During this year long class, they will be learning advanced culinary skills along with management skills. Students who would like to be considered for this class should be considering a career in Food Service.

Restaurant Management 5A	HS6253	GRADE: 11-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in Professional Baking HS6231 & HS6232 or Professional Cooking HS6245 & HS6246. Successful completion (“C” or better) in HS6253 to proceed to HS6254

COREQUISITES: If you take this course, you must also take HS6250 - Restaurant Management 5B , and Hs6249 and Hs6250 (6A& 6B).

COURSE NOTE: Enrollment for this class is limited and is by course instructor signature only. Restaurant management students must have room in their schedule to be in restaurant class during both blocks, all year.

Students will be acting as managers and trainers for “The Fraser Grille”. During this year long class, they will be learning advanced culinary skills along with management skills. Students who would like to be considered for this class should be considering a career in Food Service.

Restaurant Management 5B	HS6254	GRADE: 11-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in Professional Baking HS6231 & HS6232 or Professional Cooking HS6245 & HS6246.

COREQUISITE: If you take this course, you must also take HS6249 - Restaurant Management 6A and HS6253 – Restaurant Management 5A and HS6250 6B.

COURSE NOTE: Enrollment for this class is limited and is by course instructor signature only! Restaurant management students must have room in their schedule to be in restaurant class during both blocks, all year.

Students will be acting as managers and trainers for “The Fraser Grille”. During this year long class, they will be learning advanced culinary skills along with management skills. Students who would like to be considered for this class should be considering a career in Food Service.

CULINARY ARTS - 4 YEAR PLAN OF STUDY

GRADE 9	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 9A, Accelerated English 9A or Academic Literacy 9A • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology A • Modern World History • Physical Education A • French 1A or Spanish 1A • CTE Elective: Professional Baking A or Professional Cooking A • SMART 	<ul style="list-style-type: none"> • English 9B, Accelerated English 9B or Academic Literacy 9B • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology B • 20th Century History • Physical Education B • French 1B or Spanish 1B • CTE Elective: Professional Baking B or Professional Cooking B • SMART
GRADE 10	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 10A, Hybrid-English 10A, or Accelerated English 10A • Geometry A or Accelerated Geometry A • Chemistry I or Physics I • American History I or Hybrid-AP US History A • French 2A or Spanish 2A • CTE Elective: Culinary Practice A • Elective • SMART 	<ul style="list-style-type: none"> • English 10B, Hybrid-English 10B, or Accelerated English 10B • Geometry B or Accelerated Geometry B • Chemistry I or Physics I • American History II or Hybrid-AP US History B • French 2B or Spanish 2B • CTE Elective: Culinary Practice B • Elective • SMART
GRADE 11	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 11A, AP English Language & Composition 11A or Hybrid-English 11A • Algebra 2A or Accelerated Algebra 2A • Environmental Science I • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Restaurant Management A • Elective • Elective • SMART 	<ul style="list-style-type: none"> • English 11B, AP English Language & Composition 11B or Hybrid-English 11B • Algebra 2B or Accelerated Algebra 2B • Chemistry II, Physics II, or Environmental Science II • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Restaurant Management B • Elective • Elective • SMART
GRADE 12	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op Commercial Foods A • CTE Elective: Restaurant Management A • Elective • Elective • SMART 	<ul style="list-style-type: none"> • English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op Commercial Foods B • CTE Elective: Restaurant Management B • Elective • Elective • SMART

Segments of Instruction

- Segment 1: Cost Control & Culinary Math
- Segment 2: Culinary Core
- Segment 3: Serve Safe & Sanitation
- Segment 4: Guest Relations
- Segment 5: Basic Cooking
- Segment 6: Baking & Pastry
- Segment 7: Management
- Segment 8: Marketing & Entrepreneurship
- Segment 9: Advanced Cooking
- Segment 10: Garde Manager
- Segment 11: Sustainability & Nutrition
- Segment 12: Career & Professional Development

Articulation Agreements

Fraser High School has entered into articulation agreements with a number of post-secondary education partners. Students who complete all classes within the Fraser CTE programs listed below are eligible to receive college credit at no additional cost to the student. Please see CTE Director, Brent Brasure, for details regarding acquiring these credits following graduation as each agreement has specific requirements or reference the links below.

[Baker College](#)

[Macomb Community College](#)

[Ferris State University](#)

[Washtenaw Community College](#)

Career Technical Student Organizations

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Industry Partners:

Team Schostak
Macomb Community College
Cleary University
Cloverleaf Pizza
Randazzo Fresh Market
Vintage House
School Store POS Systems
Great Lakes Coca-Cola Bottling
HPS-Hospital Purchasing Services
Coffee House

Stafford-Smith, Inc.
Terry's Terrace
Detroit Shipping Company/River Bistro
Marcus Grill
Minha's Coffee House
Northwestern Mutual Insurance
Arcadia Bluffs Country Club
Continental Services
Bonefish Grille
MSGCU



HUMAN SERVICES



19.0000 Family and Consumer Sciences

Course Sequence

Any Year

Foods & Nutrition
Semester 1

Parenting
Semester 2

Family Living
Semester 2

Hybrid Parenting
Semester 2

Senior Year Only

Hybrid Surviving
After High School
Semester 1 OR Semester 2

Foods and Nutrition	HS6130	GRADE: 9-12	CREDIT: 0.5
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Food and Nutrition is a one semester course designed to stress the importance of diet, proper eating and good nutritional habits for personal health. Basic food knowledge and preparation will be gained through reading and writing assignments and actual cooking experiences. Emphasis will be placed on time management, organization and cooperative work habits during cooking labs.

Parenting	HS6160	GRADE: 9-12	CREDIT: 0.5
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Parenting is a very important one semester class designed to help all students, regardless of gender, understand the responsibilities associated with parenting. Topics include prenatal nutrition, growth, birth, development of the fetus, care and feeding of the infant and toddler, and serious issues related to teen pregnancy. Health, safety, nutrition, and positive parenting skills are investigated and discussed in relation to babies and children. The "real care" baby simulation is one of the major projects of this course.

Hybrid-Parenting.	HS6161	GRADE: 9-12	CREDIT: 0.5
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COURSE NOTE: Hybrid courses give students the opportunity to experience online learning while still receiving some face to face instruction.

Parenting is a very important class designed to help all students regardless of gender, understand the responsibilities associated with parenting. Topics include prenatal nutrition, growth, birth, development of the fetus, care and feeding of the infant and toddler, and serious issues related to teen pregnancy. Health, safety, nutrition, and positive parenting skills are investigated and discussed in relation to babies and children. The "real care" baby simulation is one of the major projects of this course.

Family Living	HS6170	GRADE: 9-12	CREDIT: 0.5
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Family Living is a one semester class designed to focus on personal development, interpersonal relationships, effective individual and family functioning, and career preparation within a changing society. Students will explore responsibilities of living as an independent adult, relationship development outside the family, and the factors that contribute to marital success. Special attention is focused on promoting and strengthening the family unit, and managing multiple family, community, and career roles.

Life Management Skills	HS6180	GRADE: 9-12	CREDIT: 0.5
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Life Management Skills is a one semester class. The workforce needs employees that can think critically, solve problems, innovate, collaborate and communicate more effectively. Experiences in this course will help students gain or strengthen those skills. This course

confronts each student with the critical issues they will face upon entering adulthood. Activities, discussions, and projects will lead students to carefully examine their own attitudes, self-expectations, priorities, and 21st century skills. During the semester, students will be assigned to develop and implement a service learning project that will address a community need. Students will also have an opportunity to explore various not-for-profit organizations that provide services to the community.

Hybrid-Surviving After High School HS6191 GRADE: 12 CREDIT: 0.5

COURSE NOTE: Hybrid courses give students the opportunity to experience online learning while still receiving some face to face instruction. Each semester of this course will fulfill .5 credits of the required 12th grade math related credit.

Hybrid-Surviving After High School is a one semester class. Students need to be prepared for options after high school, including the financial and practical aspects of living on their own, either away at college or as a young adult living at home. This course will help with goal-setting and decision making with emphasis on personal finance issues, as well as the college application process and future careers.

Family & Consumer Sciences - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Foods and Nutrition, Parenting, Family Living or Life Management Skills.
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Foods and Nutrition, Parenting, Family Living or Life Management Skills.
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Foods and Nutrition, Parenting, Family Living or Life Management Skills
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Foods and Nutrition, Parenting, Family Living or Life Management Skills
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Foods and Nutrition, Parenting, Family Living, Life Management Skills or Future Teacher A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Foods and Nutrition, Parenting, Family Living, Life Management Skills or Future Teacher B
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Foods and Nutrition, Parenting, Family Living, Life Management Skills or Future Teacher A
- Elective
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Foods and Nutrition, Parenting, Family Living, Life Management Skills or Future Teacher B
- Elective
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Parenting and Family Studies
- Segment 2: Nutrition and Food Services
- Segment 3: Consumer and Family Finance
- Segment 4: Development Across the Lifespan
- Segment 5: Health and Wellness
- Segment 6: Design (interior and textile)
- Segment 7: Hospitality Services
- Segment 8: Early Childhood Education and Development

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTSOs work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTSO's help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTSO activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.



Industry Partners:

Ethical Choices Program-Foods and
Nutrition

Turning Pointe-Family Living

Sadner-Care-Family Living, Parenting

Free Star Financial Family Living Surviving

Big Family of MI

Pearson

Everfi



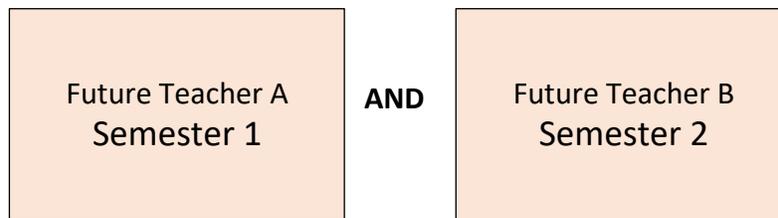
HUMAN SERVICES



13.0000 Education General

Course Sequence

First Year



Future Teacher A	HS6100	GRADE: 10-12	CREDIT: 0.5
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COREQUISITES: If you take this course, you must also take HS6101 - Future Teacher B.

COURSE NOTE: Students must complete an application process along with two teacher recommendations. Applications available in room 1402.

Future Teacher is a two-semester class. This class will prepare students to have the necessary academic and work behavior skills to begin, complete, and advance in their future career as an educator. Students will be provided with valuable classroom and field experiences that will develop foundational skills for postsecondary education for a career in teaching, or other related opportunity.

Future Teacher B	HS6101	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS6100 - Future Teacher A.

COREQUISITES: If you take this course, you must also take HS6100 - Future Teacher A.

See course description for HS1600 Future Teacher A.

Future Teacher - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- Elective
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- Elective
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- Elective
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- **CTE Elective: Future Teacher A**
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- **CTE Elective: Future Teacher B**
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- **CTE Elective: Co-op General Business A**
- Elective
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- **CTE Elective: Co-op General Business B**
- Elective
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Employability Skills and Career Planning
- Segment 2: Human Growth and Development
- Segment 3: Communication and Collaboration
- Segment 4: Diversity
- Segment 5: Classroom Management and Guidance
- Segment 6: Applied Learning and Field Experience
- Segment 7: Health and Safety
- Segment 8: Learning Environment and Climate
- Segment 9: Ethics and Professional Responsibility
- Segment 10: Systems and Legal Issues
- Segment 11: Instructional Strategy / Technology
- Segment 12: Curriculum Planning and Assessment

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTOS work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTOS help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTOS activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.





National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

Saginaw Valley State University
Wayne State University
Central Michigan University
Baker College of Clinton Township
Rising Stars Academy
Pearson

Fraser Public Schools
Richards Middle School
Edison Elementary
Salk Elementary
Fraser High School
Dooley Little Learners Center



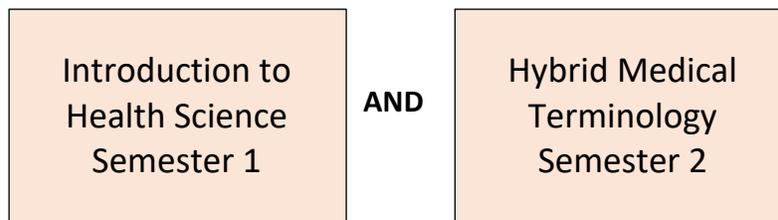
HEALTH SERVICES



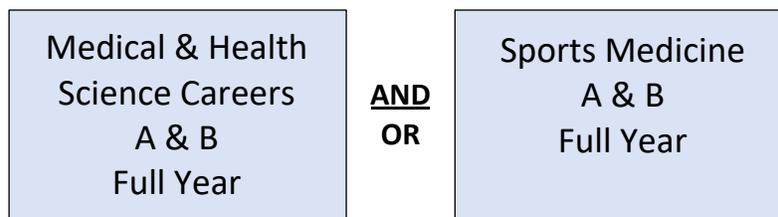
51.0000 Health Sciences/Allied Health.
Health Sciences, General

Course Sequence

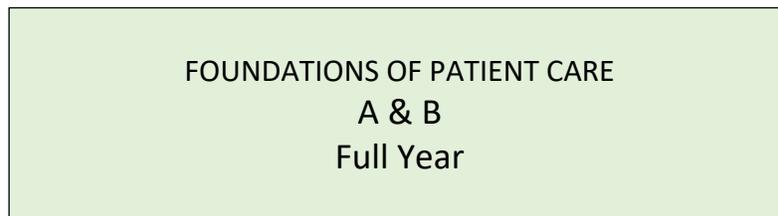
First Year



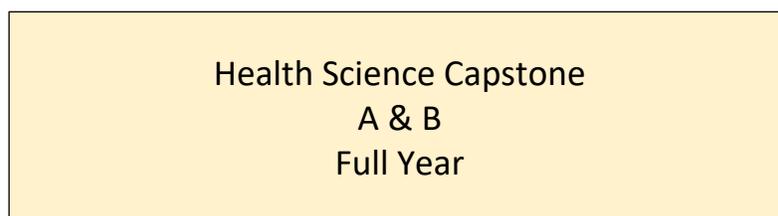
Second Year



Third Year



Fourth Year



Successful completion will fulfill .5 credits of the required 12th grade math-related credit. Recommended, but not required, completion of Intro to Health Science and/or Hybrid Medical Terminology.

A career in health care can be challenging, exciting, and extremely rewarding. Medical and Health Science Careers is a two-semester course sequence designed to help students explore the health care field and the variety of related careers that are available. Students will also be introduced to human anatomy and physiology, medical terminology and abbreviations, communication skills, ethical and legal responsibilities, infection control, safety, career planning, and employability skills. Students will complete the skills necessary for First Aid and CPR certification. Students will complete work-based learning experience as well as an employability portfolio.

Medical and Health Science Careers B HS5622 GRADE: 10-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in HS5621 - Medical and Health Science Careers A.

COREQUISITES: If you take this course, you must also take HS5621 - Medical and Health Science Careers A.

Patient Care Foundations A HS5631 GRADE: 11-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in Medical and Health Science Careers A and B or Sports Medicine A and B.

COREQUISITES: If you take this course, you must also take HS5632 – Patient Care Foundations B.

COURSE NOTE: Successful completion (“C” or better) in section A to proceed to section B. Patient Care is a two-semester course sequence for students interested in learning basic health skills for care of patients in a variety of settings. These skills may include patient transportation, movement and ambulation, patient environment, communication, safety, ethical and legal responsibilities. Other topics include human anatomy and physiology as they relate to health and disease, infection control and medical terminology, as well as pharmacology and vital signs assessments. Students will learn skills that they may take directly to a job in the health care field. Health Care Co-op students must also be enrolled in Patient Care.

Patient Care Foundations B HS5632 GRADE: 11-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in HS5631- Patient Care Foundations A.

COREQUISITES: If you take this course, you must also take HS5631 – Patient Care Foundations A.

See course description for HS5631.

HOSA-Future Health Professionals competition is a required aspect of the class, with the student competing in their specific topic area (if offered), Clinical Specialty, Health Research Poster, or another related event.

Students may be required to obtain a background check, fingerprints, an influenza and COVID-19 vaccine (if available) if their study topic requires them to be in a clinical setting. Students will work with our Career Navigators and/or Work Based Learning Coordinator to determine these clinical sites as needed

Health Science Capstone is a one-semester* (with the option for a second semester) class, which will allow the senior health science student to take a deeper dive into a health science topic that interests them and may result in an industry-recognized certificate.

With guidance from the instructor, students will determine their own health science topic, identify resources, create competency statements based on the Health Science standards, and create their own course plan. Depending on the topic area, some curriculum may be pre-determined, especially if industry certification is involved.

Health Science Capstone (Hybrid) B HSxxxx GRADE: 12 CREDIT: 0.5

PREREQUISITE: Successful completion (C or better) of Health Science Capstone A and permission of the instructor.

This is a continuation of Health Science Capstone A for students that wish to continue working on their capstone curriculum.

HEALTH SCIENCE - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Introduction to Health Services or Hybrid Medical Terminology
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Introduction to Health Services or Hybrid Medical Terminology
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I, Physics I or Accelerated Chemistry A
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Sports Medicine A or Medical & Health Science Careers A
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I, Physics I or Accelerated Chemistry B
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Sports Medicine B or Medical & Health Science Careers B
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Accelerated Physics A or College Chemistry A
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Foundations of Patient Care A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Accelerated Physics B or College Chemistry B
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Foundations of Patient Care B
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Recommended/Optional: College Chemistry A & B, AP Biology A & B, Chemistry II, Physics II, Environmental Science I & II, Human Anatomy, Forensic Science, Crime Scene, and Hybrid Astronomy
- CTE Elective: Co-op Health Care A
- CTE Elective Health Science Capstone A
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit—see [Senior Math Elective](#) or Statistics or Introduction to Calculus
- Recommended/Optional: College Chemistry A & B, AP Biology A & B, Chemistry II, Physics II, Environmental Science I & II, Human Anatomy, Forensic Science, Crime Scene, and Hybrid Astronomy
- CTE Elective: Co-op Health Care B
- CTE Elective: Health Science Capstone B
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Anatomy and Physiology
- Segment 2: Legal Responsibilities
- Segment 3: Infection Control
- Segment 4: Client Status
- Segment 5: Workplace Safety
- Segment 6: Healthcare Delivery Systems
- Segment 7: Ethics
- Segment 8: Clinical Skills
- Segment 9: Wellness
- Segment 10: Healthcare Communications and Terminology
- Segment 11: Health Informatics and Technology
- Segment 12: Career Readiness

Articulation Agreements

Fraser High School has entered into articulation agreements with a number of post-secondary education partners. Students who complete all classes within the Fraser CTE programs listed below are eligible to receive college credit at no additional cost to the student. Please see CTE Director, Brent Brasure, for details regarding acquiring these credits following graduation as each agreement has specific requirements or reference the links below.

[Baker College](#)

[Macomb Community College](#)

[Washtenaw Community College](#)

Career Technical Student Organizations

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[Michigan HOSA](#)



National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

St. Joseph Mercy Oakland Hospital
National Kidney Foundation of Michigan
Beaumont Hospital-Endoscopy
Henry Ford Hospital-Macomb Hospital
Henry Ford W. Bloomfield Hospital
Ferndale Fire Department
ATI Physical Therapy

McLaren Macomb Hospital
Baker College
Macomb Community College
Davenport University
Macomb County Health Department
The Recovery Project
Rehabilitation Institute of MI

Fashion Design	HS6195	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS6150 - Design for Living.

Fashion Design is a one semester class. The purpose of this course is to make the fashion design world real and meaningful. Students will learn how to apply the elements and principles of design as well as color and color schemes to fashion design. Students will examine textiles, fibers, fabrics, merchandising and marketing as it applies to the fashion industry. Students will learn how to examine the business aspect of this industry by understanding business practices, store operations, and consumerism. Students will also learn the safe and appropriate use of equipment for fabric construction. Students will build on their industrial sewing skills with our General Motors partnership in the classroom. They will learn safety, equipment, operation and demonstrate skills. This class is for students who are seeking adventure, challenge, and opportunities.

Hybrid-Fashion Design	HS6196	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS6150 - Design for Living

COURSE NOTE: Hybrid courses give students the opportunity to experience online learning while still receiving some face to face instruction.

Hybrid-Fashion Design is a one semester class. The purpose of this one semester course is to make the fashion design world real and meaningful. Students will learn how to apply the elements and principles of design as well as color and color schemes to fashion design. Students will examine textiles, fibers, fabrics, merchandising and marketing as it applies to the fashion industry. Students will learn how to examine the business aspect of this industry by understanding business practices, store operations, and consumerism. Students will also learn the safe and appropriate use of equipment for garment construction. This class is for all students who are interested in the business or the design aspect of the fashion industry.

FASHION DESIGN - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Design for Living
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Fashion Design
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Design for Living
- Elective
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Fashion Design
- Elective
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Design for Living
- Elective
- Elective
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Fashion Design
- Elective
- Elective
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op Industrial Technology A
- Elective
- Elective
- Elective
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op Industrial Technology B
- Elective
- Elective
- Elective
- SMART

Segments of Instruction

- Segment 1: Industry Knowledge & Legal Aspects
- Segment 2: Fashion Design & Sketching
- Segment 3: History of Fashion
- Segment 4: Elements, Principles & Goals of Design
- Segment 5: Safety & Equipment
- Segment 6: Textiles, Fibers & Color Theory
- Segment 7: Fashion/Sewing Portfolio
- Segment 8: Employability Skills
- Segment 9: Career & Position Opportunities
- Segment 10: Professional Portfolio
- Segment 11: Professional Skills/Technology
- Segment 12: Leadership and Teamwork

Articulation Agreements

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[Kirtland Community College](#)

Career Technical Student Organizations

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National **Technical**
Honor Society

[National Technical Honor Society](http://www.nths.org)

Industry Partners:

GM Design Group

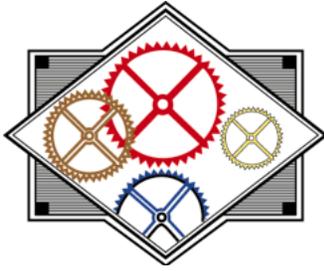
The Somerset Collection

Ta-da Productions

Gap

Burberry

David Yurman



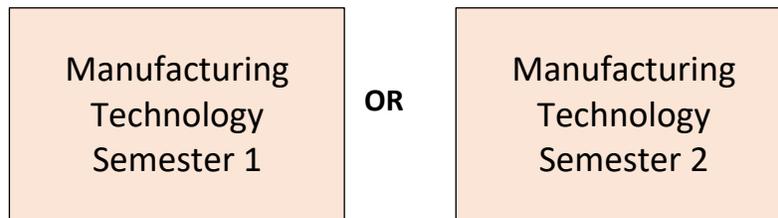
ENGINEERING, MANUFACTURING & INDUSTRIAL TECHNOLOGY



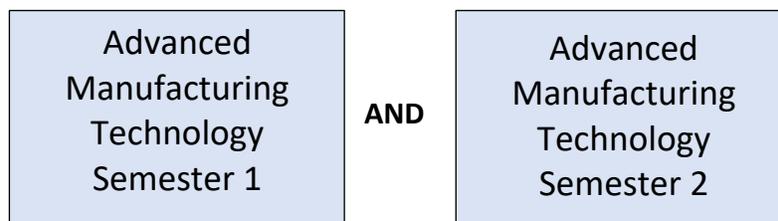
Manufacturing Technology

Course Sequence

First Year



Second Year



In today's technological society there are many challenging careers for individuals with talent and skill in the area of manufacturing technology. Successful completion of this program can lead to many exciting career opportunities. Some examples to consider include, but are not limited to; machinist, tool & die maker, sheet metal worker, heating and air conditioning, fixture builder, model maker, sign maker, ornamental iron, airframe mechanic, auto body repair, iron worker, welder, specification writer, inspector, designer, engineer, architect and many other construction and manufacturing related positions. In order to enter any of these fields a person must have a broad repertoire of manufacturing, drafting and mathematics skills as well as strong communication abilities.

The task here is to develop "real-life" projects that will demonstrate the individual's ability to handle a number of different requirements that would be expected of an entry-level manufacturing technician, designer, architect or engineer. Due to the unique nature of manufacturing technology classes, students may incur optional costs for supplies and materials to complete exercises and projects.

Upon completion of the program the student shall demonstrate:

- Familiarity with measurement, scales and basic mathematics.
- The proper application of layout and measuring techniques.
- Knowledge of terminology related to the industry.
- Ability to identify and construct basic geometric shapes.
- Evidence of the ability to identify and construct engineering and architectural models and prototypes.
- Understanding of the basic concepts and proper usage of manufacturing hand tools, power tools and machinery.
- Safe work habits, good housekeeping skills and a team-oriented attitude.

Manufacturing Technology	HS5300	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: A commitment to attend and participate, listen, and follow directions.

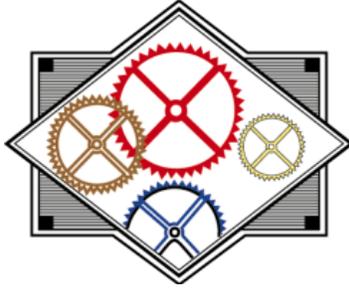
Students will be introduced to careers related to the manufacturing industry. They will have the opportunity to explore many styles and techniques used in and for manufacturing. The class will also help students understand the history of manufacturing and how it came to be the cornerstone of our local economy, while teaching highly employable manufacturing skills. All students are required to pass a safety test before they may work in the lab.

Advanced Manufacturing Technology	HS5310	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion in HS5300 - Manufacturing Technology.

COURSE NOTE: This course may be taken again for credit.

During this one semester class, students will research, plan, draw, fabricate and assemble a variety of projects. Students will also be introduced to careers related to the manufacturing industry. They will have the opportunity to explore many styles and techniques used in and for advance manufacturing. Examples are 3D Printing, CNC operation, Fanuc Robotics programing, and many other highly employable skills. All students are required to pass a safety test before they may work in the lab.



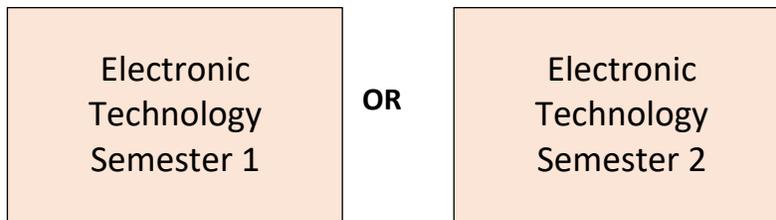
ENGINEERING, MANUFACTURING & INDUSTRIAL TECHNOLOGY



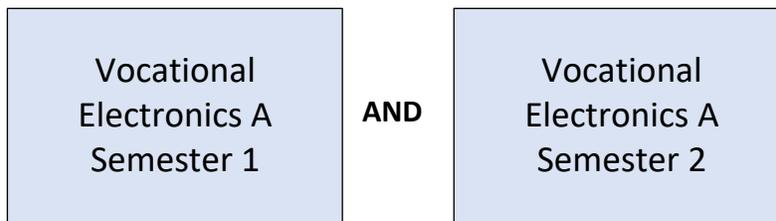
47.0101 Electrical/Electronics Equipment
Installation and Repair General

Course Sequence

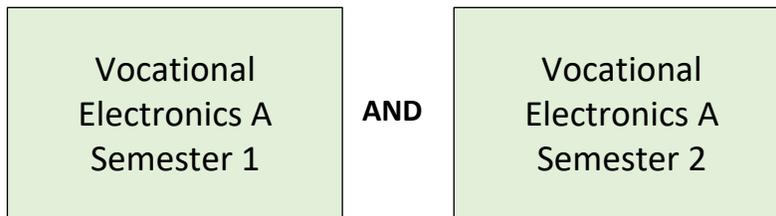
First Year



Second Year



Third Year



Electronic Technology	HS5470	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: A commitment to attend and participate, listen, and follow directions.

Electronic Technology is a one semester class. Have you ever wondered how some of your home electronics work? Have you ever been curious about how they were made? Well in this hands-on course, students get the opportunity to understand the electronics we know today and how the designs and wiring have advanced over the years. All while learning highly employable skills such as direct current wiring and circuit construction, reading schematics, design skills, and soldering for circuit board components and wires. All students are required to pass a safety test before they may work in the lab.

Vocational Electronics A	HS5497	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS5470 - Electronic Technology.

COREQUISITE: If you take this course, you must also take HS5498 - Vocational Electronics B.

COURSE NOTE: Each semester of this course will fulfill .5 credits of the required 12th grade math-related credit. This course may be taken again for credit.

Vocational Electronics A is a first semester class. This hands-on course is designed so students can expand their troubleshooting skills and competency using electronic test equipment while exploring intermediate and advanced electronic circuitry such as those found in audio systems, computers, and communication devices. Students will design, construct and troubleshoot circuits using DC electronics, AC electronics, semiconductor electronics, and digital electronics. All students are required to pass a safety test before they may work in the lab.

Vocational Electronics B	HS5498	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion (“C” or better) in HS5497-Vocational Electronics A.

COREQUISITE: If you take this course, you must also take HS5497 – Vocational Electronics A

COURSE NOTE: Each semester of this course will fulfill .5 credits of the required 12th grade math-related credit. This course may be taken again for credit.

Vocational Electronics A is a second semester class. See course description for HS5497.

ELECTRONICS - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Electronic Technology
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Electronic Technology
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Vocational Electronics A
- CTE Elective: Welding Technology
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Vocational Electronics B
- CTE Elective: Wood Technology
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Vocational Electronics A
- CTE Elective: Vocational Welding Technology A or CAD Drafting/Beginning A
- CTE Elective: Manufacturing Technology
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Vocational Electronics B
- CTE Elective: Vocational Welding Technology B or CAD Drafting/Beginning B
- CTE Elective: Small Engine Technology
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op Industrial Technology A
- CTE Elective: Vocational Engineering Drawing and CAD Applications or CAD Drafting/Beginning A
- CTE Elective: Advanced Manufacturing Technology
- CTE Elective: Vocational Welding Technology or Advanced Woodworking
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op Industrial Technology B
- CTE Elective: Vocational Engineering Drawing and CAD Applications or CAD Drafting/Beginning B
- CTE Elective: Advanced Engines Technology
- CTE Elective: Vocational Welding Technology or Advanced Woodworking
- SMART

Segments of Instruction

- Segment 1: AC/DC-electrical fundamentals (math formulas)
- Segment 2: Safety
- Segment 3: Principles of Power Conversion-transformers
- Segment 4: Electrical documentation/Communication—Blueprint, wiring diagrams, schematics
- Segment 5: Electrical test equipment and measurement—power supplies, meters
- Segment 6: Cabling and soldering-conductors
- Segment 7: Controls-motors and logic controllers
- Segment 8: Tools, fasteners, equipment (+safety related)
- Segment 9: Prototype and Design and Manufacturing--devise analysis
- Segment 10: Information Technology Application (specific IT software)
- Segment 11: Employability skills, careers, work habits, teamwork
- Segment 12: Problem solving and critical thinking

Articulation Agreements

Fraser High School has entered into articulation agreements with a number of post-secondary education partners. Students who complete all classes within the Fraser CTE programs listed below are eligible to receive college credit at no additional cost to the student. Please see CTE Director, Brent Brasure, for details regarding acquiring these credits following graduation as each agreement has specific requirements or reference the links below.

[Baker College](#)

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTOS work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTSO's help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTSO activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.



Industry Partners:

Community Foundation of Southeast Michigan

Dominion Technologies Group, Inc.

Fanuc Robotic

Fori Automation

General Motors

Hiwatt Inc.

I.F. Metalworks

IAC Group

Local 58 IBEW

Michigan Statewide Carpenters & Millwrights JATF

Motor City Industrial

Oakley Industries, Inc.

Praxair

Sheet Metal Workers local 80

SME Education Foundation

South Park Welding Supplies

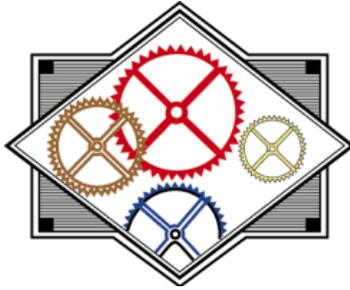
Superior Heat Treat

Rockwell Automation

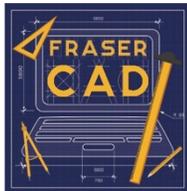
ATS Midwest

Integrated System Technologies

Kuka Robotics



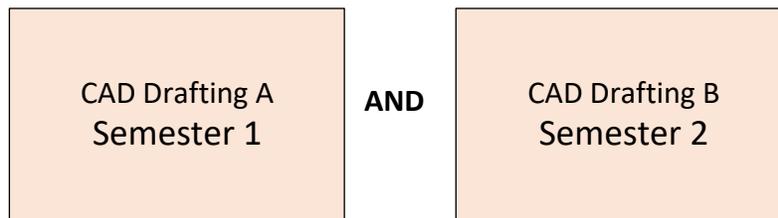
ENGINEERING, MANUFACTURING & INDUSTRIAL TECHNOLOGY



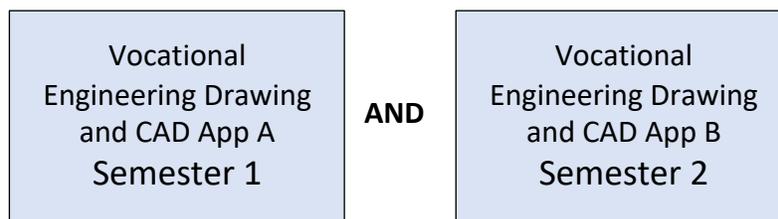
15.1306 Mechanical Drafting Consolidated

Course Sequence

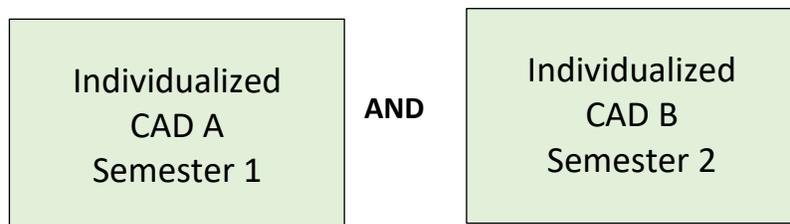
First Year



Second Year



Third Year



various advanced drawings using SolidWorks software. In this class, students will be doing a wide range of assemblies and students will further their skills in advanced solid modeling. Relations are used to define attributes such as tangency, parallelism, perpendicularity and concentricity with respect to sketch geometry. The student will understand that when creating an assembly, it will require creating relationships between the parts. Students will also learn additional advanced mating features such as gear and cam follower mates, which allow modeled gear assemblies to accurately reproduce the rotational movement of an actual gear train.

Vocational Engineering Drawing and CAD Applications B **HS5548**
GRADE: 10-12 CREDIT: 0.5

PREREQUISITE: Successful completion (“C” or better) in HS5520 - Beginning Drafting A and B.

COREQUISITE: If you take this course, you must also take HS5548 – Vocational Engineering Drawing and CAD Applications A.

Vocational Engineering Drawing and CAD Applications A is a second semester class. See course description for HS5547.

Individualized CAD A **HS5571** **GRADE: 10-12** **CREDIT: 0.5**

PREREQUISITE: A “C” or better in Vocational Engineering Drawing and CAD Applications A and B.

COREQUISITE: If you take this course, you must also take HS5548 – Vocational Engineering Drawing and CAD Applications B. This course may be taken again for credit.

Individualized CAD A is a first semester class. This course is designed as an independent study in one of the areas of drafting and CAD. It is available to students who are interested in advanced study, co-op students who are currently working in the drafting field, and students who want another drafting class but due to scheduling issues cannot be placed into Engineering Drawing. Students will, with the guidance of the instructor, set goals and course objectives.

Individualized CAD B **HS5572** **GRADE: 10-12** **CREDIT: 0.5**

PREREQUISITE: Successful completion (“C” or better) in HS5547-48 -Vocational Engineering Drawing and CAD Applications A and B.

COREQUISITE: If you take this course, you must also take HS5547-48-Vocational Engineering Drawing and CAD Applications A and B.

Individualized CAD B is a second semester class. See course description for HS5571.

MECHANICAL DESIGN - 4 YEAR PLAN OF STUDY

GRADE 9	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 9A, Accelerated English 9A or Academic Literacy 9A • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology A • Modern World History • Physical Education A • French 1A or Spanish 1A • CTE Elective: CAD Drafting/Beginning A • SMART 	<ul style="list-style-type: none"> • English 9B, Accelerated English 9B or Academic Literacy 9B • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology B • 20th Century History • Physical Education B • French 1B or Spanish 1B • CTE Elective: CAD Drafting/Beginning B • SMART
GRADE 10	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 10A, Hybrid-English 10A, or Accelerated English 10A • Chemistry I or Physics I • Chemistry A, Physics A or Accelerated Physics A • American History I or Hybrid-AP US History A • French 2A or Spanish 2A • CTE Elective: Vocational Engineering Drawing and CAD Applications A • Elective • SMART 	<ul style="list-style-type: none"> • English 10B, Hybrid-English 10B, or Accelerated English 10B • Chemistry I or Physics I • Chemistry A, Physics A or Accelerated Physics A • American History II or Hybrid-AP US History B • French 2B or Spanish 2B • CTE Elective: Vocational Engineering Drawing and CAD Applications B • Elective • SMART
GRADE 11	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 11A, AP English Language & Composition 11A or Hybrid-English 11A • Algebra 2A or Accelerated Algebra 2A • Environmental Science I • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Individualized CAD Drafting A • Elective • Elective • SMART 	<ul style="list-style-type: none"> • English 11B, AP English Language & Composition 11B or Hybrid-English 11B • Algebra 2B or Accelerated Algebra 2B • Chemistry II, Physics II, or Environmental Science II • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Individualized CAD Drafting B • Elective • Elective • SMART
GRADE 12	
1ST SEMESTER	2ND SEMESTER
<ul style="list-style-type: none"> • English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective • Any CTE Math related elective credit —see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op Industrial Technology A • Elective • Elective • Elective • SMART 	<ul style="list-style-type: none"> • English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective • Any CTE Math related elective credit —see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op Industrial Technology B • Elective • Elective • Elective • SMART

Segments of Instruction

- Segment 1: Career Preparation and Employability
- Segment 2: Engineering Technology and Safety
- Segment 3: 2D Drawing / CAD
- Segment 4: Geometric Construction
- Segment 5: Orthographic Projection
- Segment 6: 3D / Parametric Modeling
- Segment 7: Dimensioning and Tolerancing
- Segment 8: Supplemental Views
- Segment 9: Engineering Drawings
- Segment 10: Manufacturing Process
- Segment 11: Engineering Design Concepts
- Segment 12: Research and Development Applications

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[Baker College](#)

[Macomb Community College](#)

[Davenport University](#)

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTOS work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTSO's help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTSO activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.



[First Robotics of Michigan](#)



[Skills USA](#)



National **Technical**
Honor Society

[National Technical Honor Society](#)

Industry Partners:

General Motors

Community Foundation of Southeast Michigan

Dominion Technologies Group, Inc.

Fanuc Robotic

Fori Automation

Hiwatt Inc.

I.F. Metalworks

IAC Group

Local 58 IBEW

Michigan Statewide Carpenters & Millwrights JATF

Motor City Industrial

Oakley Industries, Inc.

Praxair

Sheet Metal Workers local 80

SME Education Foundation

South Park Welding Supplies

Superior Heat Treat

Atlas Tool

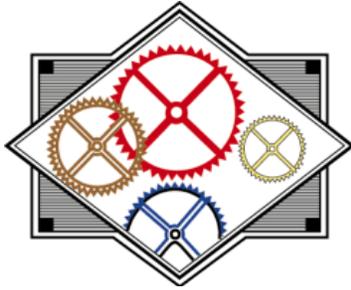
preventative maintenance. With small engine repair training, you'll get the chance to expand your abilities as a hands-on problem solver. The skills you learn lead to a greater feeling of independence and personal satisfaction. In addition, students will also learn more about career opportunities in this line of work. Students will be supplied with a small four-cycle engine to be used for lab work.

Advanced Engine Technology HS5441 GRADE: 9-12 CREDIT: 0.5

PREREQUISITE: Successful completion in HS5430 Engine Technology and a commitment to attend and participate, listen, and follow directions.

COURSE NOTE: Material costs for take home projects are the responsibility of the student.
This course may be taken again for credit

Advanced Engine Technology is a one semester class. This class will cover an in-depth study in 2 and 4 cycle engines covering the fuel, electrical, lubrication, and mechanical systems.



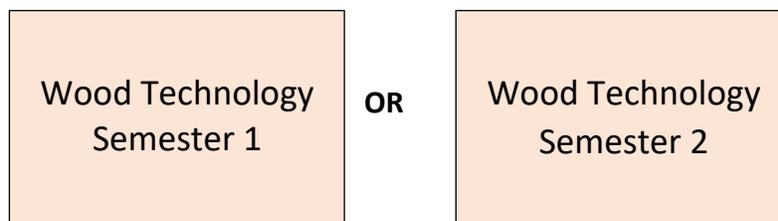
ENGINEERING, MANUFACTURING & INDUSTRIAL TECHNOLOGY



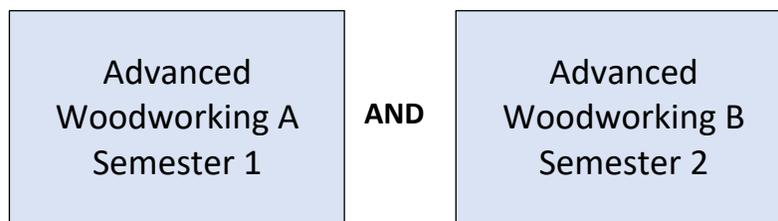
Woodworking

Course Sequence

First Year



Second Year



UNIVERSAL PROGRAM GOALS:

1. Standard workplace operating procedures
2. Basic workplace etiquette
3. Basic drafting and blueprint reading skills (the language of technology)
4. Measuring assessment and practice
5. Understanding and use of architectural scales
6. Basic drafting and sketching practice
7. Career awareness and options
8. Lab safety including; personal, machine and tool, fire and general safety

9. Tool and machine use and maintenance
10. Hardware identification and application
11. Construction and joinery techniques
12. Finishing standards
13. Quality control
14. Purchasing and marketing strategies

Wood Technology	HS5400	GRADE: 9-12	CREDIT: 0.5
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PREREQUISITE: A commitment to attend and participate, listen and follow directions.
 COURSE NOTE: Material costs for take home projects are the responsibility of the student.

Wood Technology is a one semester class. This course will offer an introduction into the basic skills needed in the use of hand and power equipment used in the woodworking industry. Areas to be studied include: career paths, employability skills, measurement, safety, basic drafting and design as well as construction and fabrication techniques. All students are required to pass a safety test before they may work in the lab.

Advanced Woodworking A	HS5419	GRADE: 10-12	CREDIT: 0.5
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PREREQUISITE: Successful completion of HS5400 Wood Technology and a commitment to attend, participate, listen and follow directions.
 COREQUISITE: If you take this course, you must also take HS5420 - Advanced Woodworking B.
 COURSE NOTE: Material costs for take home projects are the responsibility of the student. Each semester of this course will fulfill .5 credits of the required 12th grade math-related credit. This course may be taken for again for credit.

Advanced Woodworking A is a one semester class. Students will research and/or design a project in conjunction with the course instructor. Students who choose to design their own projects must be able to draw detailed working plans with all appropriate views and dimensions. The project must meet a set of pre-determined joinery, design and construction requirements. Students may choose between a series of smaller, short-term projects or a larger year-long project. Job and career exploration will be stressed along with enhancing employability skills. Students are expected to be self-motivated and work independently with assistance from the instructor. Students will be required to prepay for their project materials prior to beginning the work. All students are required to pass a safety test before they may work in the lab.

Advanced Woodworking B	HS5420	GRADE: 10-12	CREDIT: 0.5
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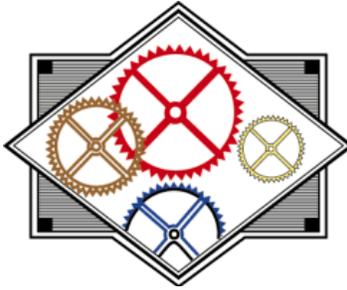
PREREQUISITE: Successful completion of HS5419 Advanced Woodworking A and a commitment to attend, participate, listen and follow directions.

COURSE NOTE: Material costs for take home projects are the responsibility of the student. Each semester of this course will fulfill .5 credits of the required 12th grade math-related credit. This course may be taken for again for credit.

Advanced Woodworking B is a one semester class. Students will research and/or design a project in conjunction with the course instructor. Students who choose to design their own projects must be able to draw detailed working plans with all appropriate views and dimensions. The project must meet a set of pre-determined joinery, design and construction requirements. Students may choose between a series of smaller, short-term projects or a larger year-long project. Job and career exploration will be stressed along with enhancing employability skills. Students are expected to be self-motivated and work independently with assistance from the instructor. Students will be required to prepay for their project materials prior to beginning the work. All students are required to pass a safety test before they may work in the lab.

Woodworking - 4 YEAR PLAN OF STUDY

GRADE 9	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 9A, Accelerated English 9A or Academic Literacy 9A • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology A • Modern World History • Physical Education A • French 1A or Spanish 1A • CTE Elective: Wood Technology • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 9B, Accelerated English 9B or Academic Literacy 9B • Algebra 1 in 2 blocks 1A or Algebra 1A • Biology B • 20th Century History • Physical Education B • French 1B or Spanish 1B • CTE Elective: Welding Technology • SMART
GRADE 10	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 10A, Hybrid-English 10A, or Accelerated English 10A • Geometry A or Accelerated Geometry A • Chemistry I or Physics I • American History I or Hybrid-AP US History A • French 2A or Spanish 2A • CTE Elective: Advanced Woodworking A • CTE Elective: Electronic Technology • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 10B, Hybrid-English 10B, or Accelerated English 10B • Geometry B or Accelerated Geometry B • Chemistry I or Physics I • American History II or Hybrid-AP US History B • French 2B or Spanish 2B • CTE Elective: Advanced Woodworking B • CTE Elective: Manufacturing Technology • SMART
GRADE 11	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 11A, AP English Language & Composition 11A or Hybrid-English 11A • Algebra 2A or Accelerated Algebra 2A • Environmental Science I • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Advanced Woodworking A • CTE Elective: CAD Drafting/Beginning A • Vocational Welding A • SMART 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 11B, AP English Language & Composition 11B or Hybrid-English 11B • Algebra 2B or Accelerated Algebra 2B • Chemistry II, Physics II, or Environmental Science II • Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics • CTE Elective: Advanced Woodworking B • CTE Elective: CAD Drafting/Beginning B • Vocational Welding B • SMART
GRADE 12	
<p style="text-align: center;">1ST SEMESTER</p> <ul style="list-style-type: none"> • English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective • Any CTE Math related elective credit —see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op Industrial Technology A • CTE Elective: Vocational Electronics Technology • CTE Elective: Vocational Engineering Drawing and CAD Applications A • CTE Elective: Small Engine Technology 	<p style="text-align: center;">2ND SEMESTER</p> <ul style="list-style-type: none"> • English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective • Any CTE Math related elective credit—see Senior Math Electives or Statistics or Introduction to Calculus • Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy • CTE Elective: Co-op Industrial Technology B • CTE Elective: Vocational Electronics Technology • CTE Elective: Vocational Engineering Drawing and CAD Applications B • CTE Elective: Advanced Small Engine Technology



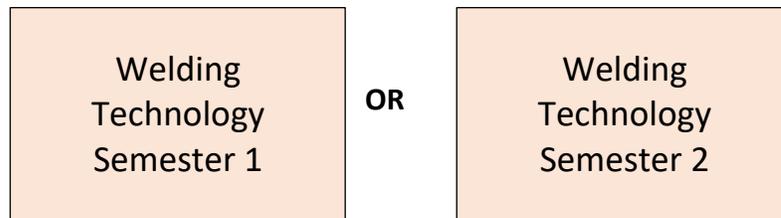
ENGINEERING, MANUFACTURING & INDUSTRIAL TECHNOLOGY



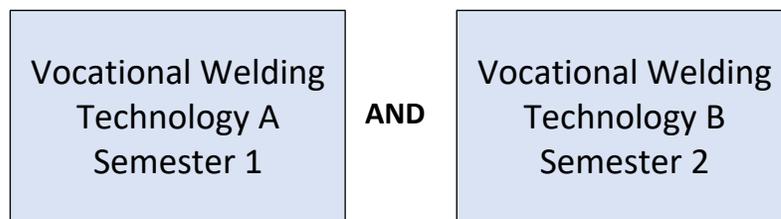
48.0508 Welding, Brazing and Soldering

Course Sequence

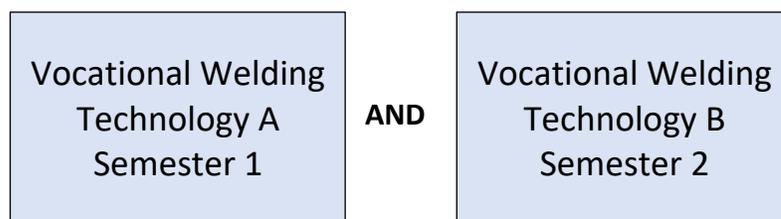
First Year



Second Year



Third Year



Welding - 4 YEAR PLAN OF STUDY

GRADE 9

1ST SEMESTER

- English 9A, Accelerated English 9A or Academic Literacy 9A
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology A
- Modern World History
- Physical Education A
- French 1A or Spanish 1A
- CTE Elective: Welding Technology
- SMART

2ND SEMESTER

- English 9B, Accelerated English 9B or Academic Literacy 9B
- Algebra 1 in 2 blocks 1A or Algebra 1A
- Biology B
- 20th Century History
- Physical Education B
- French 1B or Spanish 1B
- CTE Elective: Wood Technology
- SMART

GRADE 10

1ST SEMESTER

- English 10A, Hybrid-English 10A, or Accelerated English 10A
- Geometry A or Accelerated Geometry A
- Chemistry I or Physics I
- American History I or Hybrid-AP US History A
- French 2A or Spanish 2A
- CTE Elective: Vocational Welding Technology A
- CTE Elective: Small Engine Technology
- SMART

2ND SEMESTER

- English 10B, Hybrid-English 10B, or Accelerated English 10B
- Geometry B or Accelerated Geometry B
- Chemistry I or Physics I
- American History II or Hybrid-AP US History B
- French 2B or Spanish 2B
- CTE Elective: Vocational Welding Technology B
- CTE Elective: Advance Engine Technology
- SMART

GRADE 11

1ST SEMESTER

- English 11A, AP English Language & Composition 11A or Hybrid-English 11A
- Algebra 2A or Accelerated Algebra 2A
- Environmental Science I
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Vocational Welding Technology A
- CTE Elective: Manufacturing Technology
- CTE Elective: CAD/Drafting Beginning A
- SMART

2ND SEMESTER

- English 11B, AP English Language & Composition 11B or Hybrid-English 11B
- Algebra 2B or Accelerated Algebra 2B
- Chemistry II, Physics II, or Environmental Science II
- Economics, Hybrid Economics, AP Economics-Macroeconomics or American Government, Hybrid-American Government or AP Government Politics
- CTE Elective: Vocational Welding Technology B
- CTE Elective: Electronics Technology
- CTE Elective: CAD/Drafting Beginning B
- SMART

GRADE 12

1ST SEMESTER

- English 12A, AP English Language and Composition 12A, Hybrid-English 12A or any English elective
- Any CTE Math related elective credit—see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op Industrial Technology A
- CTE Elective: Vocational Electronics Technology
- CTE Elective: Vocational Welding Technology
- CTE Elective: Vocational Engineering and CAD Applications A
- SMART

2ND SEMESTER

- English 12B, AP English Language and Composition 12B, Hybrid-English 12B or any English elective
- Any CTE Math related elective credit —see [Senior Math Electives](#) or Statistics or Introduction to Calculus
- Elective: Recommended/Optional—Chemistry II, Physics II, Environmental Science II, Astronomy, Forensic Science, Crime Scene or Human Anatomy
- CTE Elective: Co-op Industrial Technology B
- CTE Elective: Vocational Electronics Technology
- CTE Elective: Vocational Welding Technology
- CTE Elective: Vocational Engineering and CAD Applications B
- SMART

Segments of Instruction

- Segment 1: Occupational Orientation
- Segment 2: Safety and Health for Welders
- Segment 3: Shielded Metal Arc Welding (SMAW)
- Segment 4: Manual OxyFuel Gas Cutting (OFC)
- Segment 5: Flux Cored Arc Welding (FCAW)
- Segment 6: Drawing and Welding Symbols
- Segment 7: Gas Metal Arc Welding (GMAW)
- Segment 8: Mechanized OxyFuel Gas Cutting (OFC)
- Segment 9: Gas Tungsten Arc Welding (GTAW)
- Segment 10: Plasma Arc Cutting (PAC)
- Segment 11: Weld Inspection and Testing
- Segment 12: Carbon Arc Cutting (CAC-A)

Articulation Agreements

Fraser High School has entered into articulation agreements with a number of post-secondary education partners. Students who complete all classes within the Fraser CTE programs listed below are eligible to receive college credit at no additional cost to the student. Please see CTE Director, Brent Brasure, for details regarding acquiring these credits following graduation as each agreement has specific requirements or reference the links below.

[Baker College](#)

[Macomb Community College](#)

[Ferris State University](#)

[Washtenaw Community College](#)

Career Technical Student Organizations

Career Technical Student Organizations (CTSO) enhance student learning through contextual instruction, leadership and personal development, applied learning and real-world application. CTSOs work as an integral component of the classroom curriculum and instruction, building upon employability and career skills and concepts through the application and engagement of students in hands-on demonstrations and real life and/or work experiences through a Career and Technical Education (CTE) program. CTSO's help guide students in developing a career path, a program of study and provide opportunities in gaining the skills and abilities needed to be successful in those careers through CTSO activities, programs and competitive events. In addition, students have opportunities to hold leadership positions at the local, state, and national level and attend leadership development conferences to network with other students as well as business and industry partners.



National **Technical**
Honor Society

National Technical Honor Society

Industry Partners:

Armored Cars

Community Foundation of Southeast Michigan

Dominion Technologies Group, Inc.

Fanuc Robotic

Fori Automation

General Motors

Hiwatt Inc.

I.F. Metalworks

IAC Group

Local 58 IBEW

Michigan Statewide Carpenters & Millwrights JATF

Motor City Industrial

Oakley Industries, Inc.

Praxair

Sheet Metal Workers local 80

SME Education Foundation

South Park Welding Supplies

Suburban Bolt

Superior Heat Treat

EFD Induction