



Helena High School

1300 BILLINGS AVE.

HELENA, MT 59601

Go Bengals

CAREER & TECH ED DEPARTMENT

Student Organizations:

Be Involved from Day 1

Fun – Friends – Skills – College & Career Readiness – Competition – Scholarships – Travel



HEALTH CAREERS

The Health Careers Pathway consists of the 4-year Project Lead the Way (PLTW) Biomedical Sciences Program as well as Health Careers Exploration and Athletic Training.

Biomed 1 (Principles of Biomedical Science):

Elective 9 – 12 Full Year – 1 Credit

In this course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems.

Biomed 2 (Human Body Systems):

Elective 10 – 12

Full Year – 1 Credit

Students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor basic body functions. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real-world cases and often play the role of biomedical professionals to solve medical mysteries.

Biomed 3 (Medical Interventions):

Elective 11– 12

Full Year – 1 Credit

Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. The course is a “How-To” manual for maintaining overall health and homeostasis in the body as students explore: how to prevent and fight infection; how to screen and evaluate the code in human DNA; how to prevent, diagnose and treat cancer; and how to prevail when the organs of the body begin to fail.

Biomed 4 (Biomedical Innovations):

Elective 12

Full Year – 1 Credit

In this capstone course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design and present innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician’s office, or industry.

Health Careers Exploration:

Elective 11-12

Full Year—2 Credits

Students will explore a variety of health care occupations through job shadows and class lectures by community health care providers. The students will be studying Human Anatomy and Physiology through lecture and labs. Also, the students will learn medical terminology and medical math. Lastly, the students will get certified in First Aid/CPR and in Nursing Assisting. With these two certifications, the students will be able to enter the Health Care field immediately.

Basic Athletic Training:

Elective 10-12

One Semester—0.5 Credits

Students will get certified in First Aid/CPR and learn about Sports Medicine. The students will get a good base in medical terminology, the healing process of the body, and explore the duties and functions of the Sports Medicine team. Throughout the semester the students will be studying musculature and skeletal anatomy along with the function of major joints in the body. The students will learn how to manage and recondition common athletic injuries. Lastly, the students will learn preventative taping and stretching of major muscles and joints of the body.

DRAFTING

FUNDAMENTAL DRAFTING (YEAR 1)

Elective 9-12

Full Year – 1 Credit

This course studies basic drafting skills. Students will complete drafting projects developing skills in Geometric Construction, Lettering, Three-View Projection and Dimensioning. Those desiring to develop basic drafting skills and who have any interest in engineering or architecture are encouraged to participate.

Dual Enrollment 3 credits

COMPUTER AIDED DRAFTING (AUTOCAD - YEAR 2)

Elective 9-12

Full Year – 1 Credit

This course teaches students the basic Computer Aid CAD (AutoCAD) skills. Throughout this curriculum, students will learn advanced drafting skills including Sections, Auxiliary View, and Working Drawings. This course is a prerequisite to 3D Printing & Mechanical Design and Architectural House Design.

Dual Enrollment 3 credits

3D PRINTING & MECHANICAL DESIGN (YEAR 3/4)

Elective 9-12

Full Year – 1 Credit

This course teaches students basic and advanced 3D rendering/modeling within a Autodesk Inventor software. Students will learn the five stages of the design process. Reverse engineering varies projects and 3D print throughout the curriculum. Students will publish varies online models they have designed and learn to work collaboratively with other students from around the State of Montana, on collaborative projects.

Dual Enrollment 3 credits

ARCHITECTURAL HOME DESIGN (YEAR 3/4)

Elective 9-12

Full Year – 1 Credit

This course studies design techniques used in residential construction, while learning BIM (Building Information Modeling) Autodesk Revit Software. Students will develop a complete set of house plans using standards of planning and construction. Consideration will be given to floor plans, elevation, plot plans, wall sections, and cost of construction.

Dual Enrollment 3 credits

AUTO

AUTO I

Elective 10-12

Semester – 0.5 Credit

Students will learn about shop safety procedures, vehicle lifting, basic tool usage, engine, cooling, and lubrication systems and diagnosis as well as basic vehicle maintenance. This is a good class for EVERY student to take!

AUTO II (2 period class)

Elective 11-12

Full Year – 2 Credit

The students will learn the skills necessary to diagnose and repair small engines, electrical systems, brakes, and a crash course on drivetrains. Throughout this course, students have the opportunity to become student ASE certified in both electrical and brakes.

AUTO II (2 period class)

Elective 12

Full Year – 2 Credit

The students will learn to diagnose and repair steering and suspension systems as well as engine performance systems. In the Careers unit, students go out on job shadows and look at life after high school. Students are allotted a large amount of shop time for live vehicle repairs. ASE certification opportunities continue with the section content.

WELDING

WELDING I - **Elective 9-12** **Full Year - 1 Credit**
Introduction to SMAW (Arc), OFW (Gas), and GMAW (MIG) Welding.

WELDING II - (2 Period Class) **Elective 10-12** **Full Year - (2 Period Class)**
Introduces advanced welding techniques. Students are expected to design and fabricate projects. OSHA 10 card will be earned. *Dual Credit Option: Helena College Industrial Safety for Welding 107-1, MSU-Northern WLDG 110 and 111.*

WELDING III - (2 Period Class) **Elective 11-12** **Full Year - (2 Period Class)**
This is an advanced course that will further your knowledge of welding. The focus of this course will be to strengthen and advance student welding and engineering skills as they apply to personal metal manufacturing projects, careers, and related industrial certifications. *Dual Credit Option: Helena College Industrial Safety for Welding 107-1, MSU-Northern WLDG 110 and 111*

WELDING IV - (2 Period Class) **Elective 1-12** **Full Year - (2 Period Class)**
This is a lab-based, project-oriented class that is designed for employment readiness. The class is designed to prepare the student for post-secondary education or employment. Students will focus on writing skills and building a portfolio for employment or post-secondary education. Students will train for AWS welding certifications. *Dual Credit Option: Helena College Industrial Safety for Welding 107-1, MSU-Northern WLDG 110 and 111*

WELDING/MANUFACTURING CO-OP— **Elective 11-12** **Full Year - 1 Credit**
(Student must be 18 years old)
Cooperative welding/manufacturing education is a program in which welding students who, through a cooperative arrangement between the school and employers, receives classroom instruction and related on-the-job training in a welding occupation.

WOODS

Fundamental Woodworking and Design - **Elective 9-12** **Full Year - 1 Credit**
Introductory drafting and basic woodworking.

Intermediate Carpentry & Cabinetmaking (2 Period Class) - **Elective 10-12** **Full Year - 2 Credit**
Introduces students to basics of construction, design, housebuilding and finish cabinetry.

Advanced Carpentry & Cabinetmaking (2 Period Class) - **Elective 11-12** **Full Year - 2 Credit**
Students will refine finish carpentry skills learned in Intermediate Level. Strong emphasis on finish work and personal projects.
Prerequisite Intermediate Carpentry

BUSINESS

The ability to use computers is one of the most important skills for the 21st Century. Business-related skills permeate every aspect of our lives, regardless of our chosen career field and give the extra edge when competing for jobs. These skills will also carry over into all other high school curriculum and are critical for Career and College Readiness.

MS Word/MS Excel

Elective 10 – 12 (9 with 7304) Semester - .5 Credit

Students work independently completing modules in Microsoft Word and Excel. Each module contains training on different features within MS Word / MS Excel as well as exams and projects focusing on what they have learned in each module. Dual Credit through Helena College: 3 Credits CAPP156

Business Cooperative

Elective: 11 - 12 Semester/Year .5 - 1 Credit

Employed students can earn vocational credit for holding a job outside of school by working, completing work skills units, submitting worked hours and employer evaluations.

Career Planning

Elective: 9 - 12 Semester .5 Credit

This class explores a variety of career pathways and helps students determine a specific career path. Additionally, develop job seeking skills; business communication skills including resume and cover letter creation, as well as participating in a mock interview.

Personal Finance -

Elective: 10 - 12 Year 1 Credit

Personal Finance Skills for life that includes spending plans, saving, investing, credit, college funding, renting and home ownership; automobile financing; and more. Dual Credit through Miles Community College: 3 Credits

Law and Justice -

Elective: 9 - 12 Semester .5 Credit

Business & Personal Law with a focus on Criminal and Civil law and courtroom procedures through Mock Trial competition.

Accounting 1 -

Elective: 10 - 12 Year 1 Credit

Introduction to Accounting Dual Credit – Accounting 101 (3 Credits—Helena College)

Pathways: Small Business Management & Finance

MARKETING

The Marketing and Small Business Management courses are designed around national standards for Marketing Management, Entrepreneurship, and Business Administration. These courses are designed to help deliver a good or service to users/consumers, change behaviors, and influence ideas or even inspire students to consider the possibilities of business ownership and being an entrepreneur.

Marketing

Elective:10 - 12 1 Credit

Students will receive experience in business communications, sports and entertainment marketing, product development, advertising-including social media, sales, customer service, consumer data and business plans. This class also allows for opportunities in DECA which plans and implements Night to Shine and options to compete at state and national levels in marketing and business entrepreneurship.

Full Year - 1 Credit Vocational or Elective Credit can be applied to this class.

Small Business Management /Catty Shack

Elective: 10 - 12 1 Credit

The Small Business Management class is a class that is designed to teach the principles of setting up and running one's own business. The class also has a student-based enterprise known as the Catty Shack or the school store. The Catty Shack is designed to be used as a real-life experience where students get to make decisions on product, pricing, marketing, managing and working the store.

Prerequisite: Marketing 1 (7400) - Dual credit (3) - University of Iowa
Small Business Management

COMPUTER SCIENCE

AP Computer Science Principles:

Elective 9-12 Full Year—1 Credit

Computer Science Principles is an **Introductory course** into computer systems, data, the internet, cybersecurity, and programming. No background coding knowledge is needed. We will explore many aspects of programming, including functions, lists, loops, traversals, parameters, returns, and libraries. This course uses the programming language JavaScript in App Lab as our programming environment, so students will be coding fun and helpful apps that can be opened on their phones. The AP test consists of a multiple choice section as well as a create task, to which we will devote at least 10 hours of class time, where students will have flexibility and freedom to create their own exciting program. After the AP test we will have an opportunity to explore other interesting topics in computer science.

AP Computer Science A:

Elective 10-12 Full Year—1 Credit

CSA is a **second-year course** for students who have completed Computer Science Principles and would like to further explore topics in coding and computer science. We will be coding using Java as our programming language, still in code.org. Java is an object-oriented programming language that will allow us to explore many exciting topics and projects throughout the year, including processing strings and arrays, writing complex conditional statements, using sorting algorithms, and developing classes. Join this class for opportunities to showcase your computer science creativity.

FAMILY & CONSUMER SCIENCES – CULINARY ARTS

CTE Industries / Pathway: Hospitality & Tourism

Dual Credit Option: Missoula College, Course 105 Safety and Sanitation

Certification: ServSafe Food Handlers, ServSafe Managers, Food Protection Manager Certification

The Culinary Pathway includes a sequence of four courses leading to a career in the Hospitality and Tourism industry. Students in **Culinary I, II and III** utilize the National Restaurant Association curriculum *ProStart*. Culinary I and II develop the student's skills in culinary arts and expose the students to the world of professional cooking. Students have opportunities to work with industry partners in outside caterings and events. Culinary III is the capstone experience for the culinary student, offering the opportunity for dual credit from Missoula College in Safety and Sanitation, externships with local chefs and state and national competitions. **Culinary I, II and III** are 2 period block classes for Juniors/Seniors who have successfully passed **Intro to Culinary**. Application details are available from the counseling center.

Intro to Culinary Arts and Nutrition

Elective: 9 – 12 Semester -.5 Credit

The first course of the series is **Intro to Culinary Arts** is open to all students, one semester. The course is designed to introduce basic nutrition and cooking skills for individual and family cooking. The course is based on a whole foods approach with an emphasis on sustainability, local, and fresh foods, safety and sanitation, nutrition basics, the relationship between disease and diet and food culture in American life. Students are required to pass their **ServSafe Food Handlers Certification**.

Culinary I Pre-Requisite – Intro to Culinary Arts (2 periods)

Elective: 11 - 12 Semester - 1 Credit

Culinary I is an exciting and innovative hospitality/culinary arts education designed specifically for students interested in a career in the food and hospitality industry. The course is based on the National Restaurant Association program, **ProStart**, which provides classroom training in all aspects of culinary careers including job seeking skills, management, nutrition and food preparation skills. 2 hour block class, signature of instructor required with 1 page application. Application available in Rm 50 or Counseling Office. Students are required to pass their **ServSafe Managers Certification**.

Culinary II Pre-Requisite –Culinary I (2 periods)

Elective: 11 - 12 Semester - 1 Credit

Culinary II continues the study of a professional career in hospitality /culinary arts. Catering for in and outside of school events will be part of the culinary arts curriculum. 2 hr block class, signature of instructor required with 1 page application. Application available in Rm 50 or Counseling Office.

Culinary III Pre-Requisite –Culinary II (2 periods)

Elective: 12 Semester - 1 Credit

Culinary III is the capstone experience for students who have successfully completed Intro, Culinary I and II. Safety and Sanitation 105 – is integrated into the class for those who would like dual credit / **Food Protection Manager Certification** from World Food Safety Academy. Students will be involved in a competition team, training with a chef mentor, and work independently in externships/internships in the community. Application available in Rm 50 or Counseling Office.

For more information contact us:

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