Course Descriptions

Manhattan High School

2021-2022

T I G E R S

Core Subject Areas:

Language Arts: English

Advanced Etymology (elective - 1 semester):

Students study the origins, translations, and definitions of word stems, especially those from Latin and Greek; weekly homework, quizzes, and tests make up the class requirements

American Literature (elective - 1 semester):

This is a survey course in which students read, study, and write about literature from early Native Americans all the way through the Modern era.

College Writing/AP Language and Composition (elective—2 semesters):

The focus of the class is academic writing for a variety of contexts and purposes, especially argumentation; high level reading and analysis of challenging texts and rhetoric make up the bulk of material studied.

Composition (required - 1 semester):

This is a semester long course typically for juniors that begins at the start of the school year. This course will focus on professional and formal writing. Students will cover grammar and the other fundamentals of writing in both academic and career settings. Throughout the course, students will write various informal pieces, and five formal papers including research papers, analyzing literature, and personal writings.

Creative Writing (elective -1 semester):

This class is a senior elective. Juniors interested in writing may also take this class. We will focus on brainstorming, writing several different genre forms, and peer feedback in workshops. Examples of units are the following: character sketch, short story, playwriting, and a media project. We will be using the 6 + 1 Writing Traits to use as direction for varying assignments. This is a workshop class, which calls for ensemble work. At various times throughout the semester, you will bring in your writing and the other students will read, analyze and critique it.

English I (required - 2 semesters):

English I is the required course for ninth grade. The material that we will be reading in class focuses on the following themes: oppression, power of language, honesty and reputation, growing up, the power of love, and intolerance. We will practice organization by using a class binder, and do a variety of long-term writing projects, including a research project on World War II.

English II (required - 2 semesters):

This course builds off of the foundations of English I. Throughout this class, students will read assigned and independent novels as we study themes and strategies for reading difficult texts. Students will develop a variety of formal and informal writings, including creative writing and a research paper.

Mythology and Folklore (elective - 1 semester):

This class is a senior elective. Juniors interested in writing may also take this class. We will be studying the following terms in class: *Myth, Folklore, Legend, and Fantasy.* The first quarter focuses on Greek Mythology. Then we move into the second quarter with Legend, and end with Fantasy. The term hero is found in all of these stories; we will analyze the hero's journey, and apply it to a variety of characters.

Novels (elective - 1 semester):

Students read at least 3 classic novels (or novels of literary merit) while learning various aspects of the novel art form (theme, characterization, plot structure, point of view, types and genres); the class includes weekly writing assignments (journal and structured analysis).

Speech (required -1 semester):

This course takes place during the 2nd semester of the year. Students will learn the basic fundamentals of giving public speeches, as well as interpersonal and intrapersonal communication. Five formal speeches, including a persuasive and demonstration speech, will be given throughout the year. In addition to this, students will give various informal speeches and memorize poetry.

Western Literature (elective - 1 semester):

For the bulk of this course, students study works by authors of the western United States, including Montana authors and Native American authors. Key texts include James Welch's *Killing Custer*, and *The Last Best Place* anthology of Montana authors.

Language Arts: Spanish

Spanish I (elective - 2 semesters):

Students learn new vocabulary and grammar to converse using basic sentences.

Areas covered: Greetings, goodbyes and introductions
The alphabet and numbers
Using adjectives to describe people
Talking about things that you like and things that you like to do.
How to conjugate verbs in the present tense

Spanish II (elective - 2 semesters):

Students continue to build vocabulary and grammar skills to converse using more complex structures including use of the past tense.

Areas covered: Foods and drinks and ordering
Daily routine - Reflexive Verbs
Clothes, colors, shopping
Past tense verb conjugations (Preterite and Imperfect)

Spanish III (elective - 2 semesters):

Students continue to increase vocabulary while learning and applying intermediate to advanced grammar concepts. Students begin to read short stories in Spanish and demonstrate understanding through questioning and summarizing. Students use advanced grammar and verb tenses to write short stories and give accounts of events.

Areas covered: Past tense verbs (Many irregular preterite verbs)
When to use preterite or imperfect
Indirect and Direct Object Pronouns

Spanish IV (elective - 2 semesters):

Students learn and apply various verb tenses in written and conversational forms. More emphasis is placed upon comprehension in the areas of reading, writing, speaking and listening. Students prepare for continuing Spanish at the collegiate level.

Areas covered: Subjunctive tense, Present perfect, Past perfect, Present perfect subjunctive, future tense, conditional tense, Imperfect subjunctive

Reading and summarization of the Novel, La Ciudad de las Bestias by Isabel Allende.

Mathematics

Advanced Mathematics (elective - 2 semesters):

A strong foundation will be developed in pre-Calculus concepts, techniques and applications, preparing students for advanced studies in mathematics. The content includes pre-calculus, trigonometry, discrete math, and data analysis. The application of technology will be integrated throughout the course. This is typically a senior level course, but students planning to enroll in AP Calculus as a senior should complete Advanced Mathematics as a junior. Prerequisite: Algebra II

Algebra I (2 semesters):

The course, typically for freshmen, will develop students' skills in algebraic processing so that students can represent (and solve) problem situations with expressions, equations, and inequalities. Functions studied include, but are not limited to, lines, quadratics, and exponential functions. The course will emphasize problem-solving methods and skills. Prerequisite: None

Algebra IA (2 semesters):

Algebra 1A is the first half of Algebra 1 in a year-long course, and may be taken upon teacher recommendation. The focus of the course is the same as traditional Algebra 1 with more time for in-class work and one-on-one feedback from the teacher to the students. Course topics include solving linear equations and inequalities, graphing and writing linear equations, and solving linear systems. Prerequisite: None

Algebra IB (2 semesters):

Algebra 1B is the second half of Algebra 1 in a year-long course, and may be taken upon teacher recommendation. The focus of the course is the same as traditional Algebra 1 with more time for in-class work and one-on-one feedback from the teacher to the students. Course topics include exponential functions, solving and graphing various forms of quadratic functions, and radical functions. Once this course is completed, students will be ready for Geometry. Prerequisite: Algebra IA

Algebra II (elective - 2 semesters):

The course, typically for juniors, will extend the concepts presented in Algebra I. Students will develop skills in areas including parent functions and their transformations, mathematical modeling, conic sections, trigonometry, rational expressions, complex numbers, and discrete mathematics. The course will focus on preparing students for college mathematics. Prerequisites: Algebra I (or both Algebra IA and Algebra 1B) and Geometry

AP Calculus (elective - 2 semesters):

This Advanced Placement (AP) course in calculus is comparable to calculus I courses offered at colleges and universities. Students who enroll in AP Calculus are required to either seek college credit, college placement, or both from institutions of higher learning through the AP Exam results, or students can elect to take this course for dual credit through the Montana University System. Prerequisite: Advanced Mathematics

AP Statistics (elective - 2 semesters):

This Advanced Placement (AP) course explores introductory statistics in which students study ways to gather and display data, practice counting techniques and evaluate probabilities. Students will also apply descriptive and inferential statistics, including hypothesis testing and finding confidence intervals. They will interpret results of various data analysis and draw conclusions based on their findings. It is expected that students who take an AP course in statistics will seek college credit, college placement, or both from institutions of higher learning. Prerequisite: Algebra II

Consumer Math (elective - 2 semesters):

Traditionally taken as a senior, the course will emphasize the skills needed in daily living. The course content includes banking, loans, purchases, insurance, and other daily consumer applications. It is recommended, although not required, that students have completed Algebra I or Algebra IA/IB prior to enrolling in Consumer Math. Prerequisite: None

Geometry (2 semesters):

Traditionally a sophomore course, students in this class build a foundation in the theory and application of geometry. Students will develop formal and informal reasoning skills through the application of geometric proofs and real-world applications. Prerequisite: Algebra I or both Algebra IA and Algebra 1B

Science

Anatomy and Physiology (elective - 2 semesters):

Anatomy and Physiology is a specific area of biology involving the structure and function of the human body. We will start off with an overview of the human body, basic chemistry, cells and tissue, and then we will go through the 11 systems of the body. These systems include the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. Prerequisite: Biology

Biology (required - 2 semesters):

Biology will emphasize the study of life. This course covers a great deal of materials in the hope you will be able to understand and learn life processes of both animals and plants. We will be studying Introduction to Biology, Cellular Structure and Function, Genetics, and Diversity of Life. Prerequisite: None

Biology Life Science (elective - 1 semester):

This class is a third semester of Biology. We will be overviewing the chapters covered in Biology the first quarter. The second quarter we will be studying Mendelian Genetics, Evolution, and Plant Physiology. This class is structured differently than Sophomore Biology where there will be more discussion of articles and presentations regarding different aspects of Biology. This is an upper level science class for Juniors and Seniors.

Chemistry (elective - 2 semesters):

This is a junior/senior full year course that is an elective class. Chemistry is the study of matter and the changes it can undergo. The purpose of the course is to study the microscopic world of elements and compounds. Students will learn about the composition of matter, as well as how matter interacts with each other. They will learn how energy is involved in both physical and chemical changes as well as the structure of molecules. Students will be tested over lecture materials, complete lab reports and be expected to actively participate in the class. Sophomores who excel in the Introduction to Chemistry and Physics class as freshmen are encouraged to take this course as well.

Topics Include:

- Atomic Structure, Periodic Table, Chemical Formulas, Chemical Reactions, Stoichiometry, Thermochemistry, Behavior of Gases, Ionic and Covalent Bonding, Molecular Structure, Reaction Rates, Solutions, Acids and Bases

Environmental Science (elective - 1 semester):

Environmental Science is the study of Ecology, which is the interactions among living things and their surroundings. We will be covering Ecosystems, Populations, Humans in the Biosphere, Biodiversity Decline, Energy Challenges, Pollution, and Earth's Changing Climate. We will be reading research, magazine, newspaper, and internet articles about the environment. We will cover each area, which will include discussion of environmental impacts that affect our world, country, state, Gallatin County, and Manhattan. There is no prerequisite for Environmental Science, although it is an upper level science class for Juniors and Seniors.

Introduction to Chemistry and Physics (required - 2 semesters):

This is a required course for all freshmen. It is designed for the student who may or may not take these sciences later on during the high school career. The course begins with physics and deals with how the world around us works. Chemistry is the next part of the course. It includes elements, compounds and reactions. The last part of the course is about waves, sound, and light. Each part is an integral part of our everyday lives.

Topics Include:

- Physics: Motion, Newton's Laws of Motion, Momentum, Machines, Energy, Waves, Sound, Light, Optics
- Chemistry: Elements, Compounds, Mixtures, Chemical Formulas, Chemical Reactions, Organic Chemistry, Solutions, Acids, Bases

Physics (elective - 2 semesters):

Physics is an elective course offered to seniors who have completed a minimum of 3 full years of math which includes Algebra I, Algebra II, and Geometry. Trigonometry background gained from Geometry and Algebra II is also highly recommended for the class. This is a full year course which studies the macroscopic world in which we live. It studies the interaction of matter and the energy that is involved. Physics is a math labor-intensive course. Problem solving skills is a must to successfully complete the course. Labs are an important part of this course as well as quizzes and tests. Topics include Kinematics (linear and rotational), Momentum, Mechanics, Energy, Waves, Sound, Light and Optics

Social Studies

American History (required - 2 semesters):

American History begins with a study of manifest destiny and will end with the Vietnam conflict and the civil rights era. Connecting political and cultural themes of the present with those in the different eras in American history will be an emphasis throughout the course. American History is a required class for juniors, and there are no prerequisites for the course.

Current Events (elective -1 semester):

Students will mostly be reading the newspaper and taking notes into a notebook that will be turned in at the end of each week for a grade. Occasionally students will research current events topics and give an oral presentation. There will be class discussions where participation is graded.

Geography (elective -1 semester):

Students will label and color 36 political and physical maps of the world and participate in a vicarious trip around the world. Students are required to submit an atlas of their maps at the end of the semester. Colored pencils/markers are helpful.

Government (required - 1 semester):

Government is a semester long survey course which will start with a comparative analysis of different governmental and economic models. In addition, students will explore the U.S. Constitution and the principles that have allowed it to adapt and remain effective. Understanding

the many different issues that separate the two major political parties and the importance of minor parties will be another emphasis. Government will conclude with a study of each of the three branches of the government. Government is a senior course with no prerequisites.

Montana Cultural Studies (required -1 semester):

Students will explore the unique characteristics and values of Montana culture and the history that has influenced Montana culture. Some particular themes that will be explored are: geography of Montana, the homesteading boom of Eastern Montana, Native American history and culture, and local area history. Montana Cultural Studies is a senior course with no prerequisites.

World History (elective - 1 semester):

Students will study ancient civilizations, various cultures and languages, and related topics of interest. Extra credit reports and projects are allowed if a student needs to raise their grade, 50 pts. is the max per semester. Reports must be 3 pgs., typed, dbl. spaced, and font size 12. Projects must be approved by the teacher, related to world history, and based on sound research.

World History 2 (elective - 1 semester):

This course is a continuation of World History. All course requirements are the same as those in World History.

Health Enhancement

Advanced P.E. (Adv. PE) (elective-1 semester):

This course is open to juniors and seniors. An emphasis is placed on lifetime activities that can be used to maintain an optimal level of wellness. Students will participate in strength training, cardiorespiratory endurance activities, and lifetime sports/activities.

Health (required - 1 semester)

This course is primarily comprised of sophomore students. Students will be taught about all aspects of health, including mental/emotional, social, and physical health. They will learn how to maintain all aspects of health in order to obtain an optimal level of wellness. Students will be encouraged to employ problem-solving and critical thinking skills to explore how they can improve their own health, as well as, help friends and family. Students will also be encouraged to advocate for causes they believe are important to the health of their community, nation and world.

P.E. I (required - 1 semester)

This course is primarily comprised of freshmen students. An emphasis is placed on lifetime activities and the components of fitness.

P.E. II (required - 1 semester):

This course is primarily comprised of sophomore students. An emphasis is placed on lifetime activities and the components of fitness.

Personal Conditioning (PC) (elective -1 semester):

This course is open to any high school student. A major emphasis is placed on weight training techniques and developing a weight training program. Students will also participate in activities that promote cardiovascular endurance and lifetime skills. This is a semester course, but can be taken more than once.

Fine Arts Subject Areas:

Art

Art I - Fundamentals (elective - 1 semester):

This class centers around seeing and recording and learning to draw in three dimensions. Various lessons in color and design, shading, thought recording and gridding are given to the students.

Art II - Drawing/Shading/Painting (elective - 1 semester):

Art II is a continuance of fundamentals with creativity and varied medium use injected into the project assignments. Creative projects are assigned, and the students are responsible for generating unique and individual projects through research and experimentation.

Advanced Art - 3D work/Independent Study (elective - 1 semester):

Advanced and studio art classes are part instructor-driven and part independent study driven. Students are given periodic specific assignments with an outcome-based grade on the ability of participants to demonstrate scope and sequence of various skills and techniques related to creative arts. Students are allowed to "focus" on any area(s) that most interest them and then together we choose a project sequence. This course may be taken more than one semester.

Drama I (elective - 1 semester):

This class focuses on both structured and unstructured improvisation (no script). Students will work in groups to create scenes, and then later experiment with playwriting as they write and direct their own scenes. This is a workshop class, which calls for ensemble work.

Pottery (elective - 1 semester):

Pottery class continues to be one of the more popular art classes offered. The students are instructed in hand building and wheel throwing, decoration and glazing techniques. Pottery is a semester class and grades are determined on daily participation and a semester project requirement list ranging from bowls, plates, bottles, vases, dishes and lidded pieces.

Music

Concert Choir (elective - 2 semesters):

This course provides an opportunity for students to sing all different types of music. It is a performance-based course utilizing choral literature to study theory, song form, musical styles, and music history. We will sing in large group and small group settings. There are performance opportunities in both the fall and spring semesters. This is a five day a week class.

Jazz Choir (elective - 2 semesters):

Jazz Choir is an opportunity for students to sing all different types of music. We will sing in large group and small group settings. There are performance opportunities in both the fall and spring semesters. This is a zero-hour class that meets two times a week. You are expected to learn music faster than regular choir. Freshmen are required to audition, as well as be in concert choir for its foundational education in singing their first year, unless granted permission by Miss Frank.

Concert Band (elective - 2 semesters):

This is a performance-based course utilizing symphonic band literature to study theory, song form, musical styles, and music history. This course includes regular public performances.

Guitar I (elective - fall semester only):

This is an introductory course in guitar performance. This is not designed to be a performance ensemble.

Guitar II (elective - spring semester only):

Students further study guitar accompaniment and soloistic styles. Prerequisite: Guitar I.

Guitar III (elective - fall semester only):

Students further study musical styles and guitar performance techniques. Class performances required. Prerequisite: Guitar II

Guitar IV (elective- spring semester only):

The course offers further study in musical styles, music theory, and guitar performance techniques. Class performances required. Prerequisite: Guitar III

Jazz Band (elective - 2 semesters):

This is a performance-based course in jazz styles, jazz history and performance techniques including jazz improvisation. This course includes regular public performances.

Music Technology/Radio Broadcasting I (elective - 1 semester):

This is a course in basic music theory and composition, digital sequencing, digital recording, editing, and production techniques. Also basic introduction to radio broadcasting, laws and regulations, and production. Students will be required to produce content and manage the school radio station.

Music Technology/Radio Broadcasting II (elective - 1 semester):
This is a continuation of Music Technology/Radio Broadcasting I with more emphasis on upper level recording techniques. Prerequisite: Music Technology/Radio Broadcasting I

Music Technology/Radio Broadcasting III (elective - 1 semester):

This is a continuation of Music Technology/Radio Broadcasting II with more emphasis on live radio broadcasting. Prerequisite: Music Technology/Radio Broadcasting II.

Music Technology/Radio Broadcasting IV (elective - 1 semester):

This course is a continuation of Music Technology/Radio Broadcasting III with more emphasis on live radio broadcasting. Prerequisite, Music Technology/Radio Broadcasting III

CTE Subject Areas:

Business

Accounting 1 (elective - fall semester):

Course will introduce fundamental accounting principles and procedures used in business. Course content includes the full accounting cycle for a sole-proprietorship, ledger and journal techniques, periodic adjustments, payroll, and financial reporting.

Accounting 2 (elective - spring semester):

Course content includes the full accounting cycle, uncollectible accounts, inventory, and depreciation. Students will also look at how managers use accounting information, including budgeting and interpreting data. Prerequisite: Accounting 1

AP Computer Science Principles (elective - 2 semesters):

Students will learn the 7 Big Ideas in Computing and develop Android Phone Apps with MIT's App Inventor software. This is a year-long AP credit course, that includes computational thinking, creating algorithms, and analyzing code. Critical thinking, problem solving, and group work are combined to teach best practices in computer science. Prerequisite: Computer 1

Business Communications (elective - 1 semester):

Develop an understanding and appreciation for effective communication in business situations. Emphasis will be placed on all phases: speaking, listening, thinking, responding, reading, writing, nonverbal, and technology.

Business Law (elective -1 semester - spring of even numbered years):

Course will emphasize legal concepts relevant to business. Topics include the court system, contracts, insurance, buyer/seller relationships, employment, organizational structures, and consumer liabilities.

Computer 1 (required - 1 semester):

This freshman course enhances digital literacy by building on computer skills in word processing, spreadsheets, and presentations. Students will also expand their knowledge of e-mail, internet research, and desktop publishing to prepare them for their future.

Computer Programming (elective -1 semester):

Explore the Joy and Beauty of Computing – Mostly using an online curriculum, utilizing videos and other resources, students will learn how to program using Python.

Digital Media Technology (elective - 1 semester):

Course teaches universal design principles such as balance and alignment, symmetry, contrast, repetition, proportion, lighting, composition, visual and aesthetic appeal. Students will work with Adobe Photoshop and Premiere Pro.

Entrepreneurship (elective- 1 semester):

Students will be acquainted with the knowledge and skills necessary to own and operate their own businesses. Course includes: economics, marketing, human relations, business law, rights and responsibilities of ownership, planning, accounting and finance, and communication.

PC Troubleshooting (elective - 1 semester):

Students learn the basics of computer assembly, maintenance and troubleshooting for PCs with the Windows based operating system. The class prepares students for TIA's A+ Certification exam.

Personal Finance (elective - 1 semester):

This junior and senior level course teaches students the concepts and principles involved in managing personal finances. Emphasis is placed on lifespan goals, decision making, consumer protection, saving and investing, types of credit, credit reports and scores, insurance, budgeting, spending influences, and taxes.

Yearbook (elective - 2 semesters):

In this course, students will gain skills in page design, publishing techniques, copywriting, editing, and photography while producing a creative and quality historical record for MHS students and the surrounding community. Participants will gain real world skills in writing, time management, leadership, marketing, teamwork, and design principles.

Career Exploration

Careers (elective - 1 semester):

In Careers, students (ideal for 11th-12th graders) will investigate and be exposed to various career pathways of their personal interests and learn skills for acquiring a job in that field such as resume building, interview techniques, proper interview attire, etc. Students will also take personality and career aptitude tests in order to understand the types of careers that might best be suited for their social and working preferences. Not all students may be interested in careers that require a college degree, so through guest speakers, research projects, field trips and other presentations, they will explore many different options for after high school to help them be successful in whichever path they choose.

Health Occupations (elective-1 semester):

The Health Occupations course is a semester long course for high school juniors and seniors. This course is designed to introduce students to basic concepts in the healthcare profession. The Health Occupations course provides knowledge regarding career opportunities available, first aid/cpr, medical terminology, blood borne pathogens, infection control, anatomy/physiology, diseases/disorders, legal/ethical responsibilities, and professionalism. This course strives to provide students with the opportunity to develop their ability to communicate using medical terminology, problem solving skills, leadership skills, and an understanding of the basic knowledge required to pursue a career in health care.

Family and Consumer Sciences

Child Development I (elective - fall semester only):

Child Development is ideal for 10th-12th grade students, and students will build a positive understanding of children's growth and development and a solid foundation of parenting skills. Child Development students learn theories of development and growth as well as techniques to use when working with children through class activities, presentations, discussion, videos, and guest speakers. Child Development is a beneficial class for anyone interested in being a teacher, day care provider, nurse, doctor, and especially a parent. It also is a great foundation for students interested in psychology, sociology and human development. Child Development focuses on prenatal development, pregnancy, parenting, genetic and birth defects, and general growth and development patterns within the first three years of life such as eating habits, fine and gross motor skills, and peer interactions.

Child Development II (elective - spring semester only):

Child Development II is ideal for 10th-12th grade students and focuses on human growth from age 3-18. Students will learn about developmental theorists, attachment theories, brain development, and more. It also includes lessons on running and operating a daycare/childcare facility, different schooling options, and a babysitting unit. Prerequisite: Child Development I

Foods I – Intro (elective - fall semester only):

Foods I is appropriate for all grades and provides the fundamental knowledge and understanding of food preparation from purchasing to consumption. Students will learn about food safety to prevent cross-contamination and food-borne illnesses being spread and to keep their food sanitary to eat and share with classmates. Then students will learn kitchen safety so while they are preparing food, they will be able to prevent kitchen-related injuries. Once those lessons are complete, the cooking begins! Ideally, each week students will learn about a certain food and cooking techniques specific to that food and then be able to prepare and eat that food by the end of the week. There will also be many lessons related to nutrition and budgeting incorporated throughout the semester.

Foods II – Advanced (elective - spring semester only):

Advanced Foods is appropriate for all grade levels and will review the food and kitchen safety learned in Foods I, but will dive into cooking much quicker than the intro class. Students will learn more complex cooking techniques so that they are able to follow more elaborate recipes. There will also be a serving and hosting aspect, where students will learn tips and tricks to hosting events/parties where food presentation is essential. Students will also focus more on nutritional value of meals and learn ways to substitute ingredients for healthier alternatives as well as study food allergies and ways to work around them. Prerequisite: Foods I- Intro

High School FCS (elective - 2 semesters):

This course is ideal for 9th-10th grade students. In High School FCS, students will touch on all areas of Family and Consumer Sciences; child development, career exploration, personal/family finances and consumerism, interior design, food and nutrition, textiles/sewing and fashion, developing positive relationships and all other things life skills related. Students will focus more in the areas of personal and family finance, consumerism, textiles and sewing, food and nutrition, and career exploration. All other subject areas will be discussed, however not as in-depth as there are specific classes for a few of these areas available for students to take. The goal of Family and Consumer Sciences is to teach useful skills but more importantly prepare students for success in life in all aspects and to promote social, emotional, intellectual, spiritual, and physical growth. Unlike all other FCS classes, this is a year-long class! *The awesome thing about this course is that it can be tailored and altered to best meet the needs of each specific class of students.*

Industrial Arts

Computer Aided Drafting (elective - 1 semester):

In this course, students learn how to apply the skills learned in free-hand drawing and mechanical drafting to the computer programs used during the process. Students gain advanced training in such areas as orthographic projection, sectioning, 3d creation and applied geometry. Drafting programs taught are Autocad, Revit, Inventor and Sketchup.

Mechanical Drafting (elective - 1 semester):

This introductory course is common in many drafting programs and covers the fundamentals and basic terminology used in design, as well as geometric construction, projection methods and reproduction processes. Students work with free-hand drawing as well as orthographic and isometric projections and prepare to translate these skills into CAD (Computer Aided Drafting) programs.

Industrial Technology (elective - 1 semester):

Students are introduced to the concept of design to product in this course. The systems of transportation, communication, energy, simple machines, problem solving and manufacturing are examined through hands-on projects. The students will have to bring their minds, creative abilities and hand skills together to solve challenging problems. Heavy emphasis on using the engineering design process to evaluate and refine ideas through prototyping with wood, metal, cardboard and 3d printing.

Industrial Technology 2 (elective - 1 semester):

Industrial technology 2 gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based learning. Used in combination with a teaming approach, industrial technology 2 challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning. Industrial technology 2 explores circuitry, machining, casting, laser engraving, small engines, metallurgy, woods and modeling software. Prerequisite: Industrial Technology

Metals 1 (elective - 1 semester):

This class is an introduction to welding and metallurgy. Students will become familiar with torch and plasma cutting, stick welding and wire feed welding. They will also learn the importance of measuring precisely, drawing items to scale, welding symbols and electrode identification. Safety is a priority in this class and will be taken very seriously. Whether a student is interested in metal art, engineering or project construction this class will provide an excellent introduction and foundation to the world of welding and metal fabrication.

Metals 2 (elective - 1 semester):

This course is offered as a dual credit course through Gallatin College and covers many different fabrications and building techniques for metal working. Sheet metal, resistance spot welding, riveting, forging and tig welding are covered. CAD (Computer Aided Drafting) and CNC (Computer numerical control) is also covered for metal fabrication and art. Four projects are to be completed with students choosing two: scrap paper weight, metal rose,washer bowl, forged item, metal art and two personal projects at a minimum. Prerequisite: Metals 1

Metals 3/Woods 3 (elective - 1 semester):

Independent study. This is an advanced class in woodworking/metalworking that builds on the concepts taught in Woods/Metals 1-2. This class provides students with an opportunity to design and produce projects of their own. Prerequisite: Metals 2/Woods 2

Woods 1 (elective - 1 semester):

This course is designed to introduce students to general woodworking practices. Students will expand their knowledge and experience through various projects, lessons, and vocabulary. Students will be expected to learn about and safely use hand tools, power tools, wood identification, woodworking machinery and laser engraving. The projects are designed to give students as much experience as possible by using many different machines and tools. Projects to be completed are: cutting board, keepsake box, picture frame and top with handle. Additional projects may be assigned as time permits.

Woods 2 (elective - 1 semester):

This is a course that emphasizes high end projects including: lathe work, cabinetry and wood joinery. Students will be required to do 4 projects throughout the class and be self-motivated. Projects include a choice of two: 3D cutting board, nightstand, bowl, pen/pencil with case, and also two personal projects at a minimum. Prerequisite: Woods 1

Additional Resource Courses:

The following courses are offered for students based on recommendation of IEP Team only.

Applied English:

This course is designed for students in need of instructional support in the area of English. The focus of the course will be on improving basic skills with instruction taking place within the regular classroom and modified assignments assigned through the Resource Teacher.

Applied Math:

This course is designed for students in need of instructional support in the area of mathematics. The focus of the course will be on improving basic skills through the use of individualized instruction.

Applied Study Skills:

This course is for students that need extra support per instructor approval during a study hall time with organization, assignments, projects and tests.

Modified Life Skills:

This course is designed for students in need of instructional support in the areas of daily living skills geared to independent living.

Modified Vocational:

This course is designed for students in need of instructional support in the area of acquiring job skills, job training and independent living.