LANGUAGE ARTS

(Four total years of Language Arts is required for graduation:
English 9, English 10, English 11 and two additional Language Arts semester long courses)

ENGLISH 9 (011/011B)

2 semesters/2 credits
Grade 9: REQUIRED

Freshman English is based on the Iowa Common Core Standards for literature in Language Arts. Students will build a strong foundation of literary understanding and written expression. Students will read and write in a wide variety of literary genres including but not limited to: nonfiction, biographies, novels, short stories, poetry, and plays. All subject matter is selected with the focus of introducing students to classic and contemporary literature, giving students a connection and understanding of the world around them.

ENGLISH 10 (009/009B)

2 semesters/2 credits
GRADE 10 REQUIRED

English 10 includes studies in both literature and composition. In literature, the student will study short stories, prose forms, Shakespearean drama, modern drama, the novel, and poetry. In writing, the students will study sentence construction and paragraph writing. The students also touch on the basic characteristics of style development. A continued study of grammar, usage, mechanics, vocabulary, and spelling will also be emphasized. Extensive use of the computer for word processing is mandated for writing assignments.

ENGLISH 11 (003/003B)

2 semesters/2 credits
Grade 11 REQUIRED

This class will present American Literature through the use of short stories and both a non-fiction and fiction novel. Students will work on comprehension strategies, write essays, and participate in discussions with the goal of analyzing works by American authors. Students will focus throughout the year on themes represented in literature as well as author's purpose and other standards set forth in the Iowa Core Curriculum. Major focus will also be on symbolism, satire, irony, and other literary techniques used by authors to convey their message.

FILM APPRECIATION (013)

1 semester/1 credit
GRADE 10-12 ELECTIVE

The purpose of this course is to gain an appreciation for films beyond what can be achieved through casual viewing; an understanding of film history and production; and a realization of the power of film on our cultural values. Students will view a wide variety of films, across genres, including classics and more contemporary offerings. Students will be required to write critical analyses of films viewed in class, participate in class discussions, and complete one research project.

JOURNALISM (002/002B)

2 semesters/2 credits
Grade 11-12 ELECTIVE
Prerequisite: Completed application and teacher approval

This course is designed for students interested in producing the annual school yearbook and monthly video productions (MVTV). This class focuses on photography, yearbook planning and production, and broadcast media planning and production (MVTV). Journalism also takes on special publication and broadcast projects as requested, including the annual Senior Video for Prom. In order to succeed in this course, students must be willing to put in work outside of class on a weekly basis by attending and documenting, through pictures and video, varied MVHS extra-curricular events. Students must be able to manage workload and deadlines independently as well as work well with the rest of the class in order to produce the work required.

ADVANCED JOURNALISM (693/693B)

2 semesters/2 credits
Grade 11-12 ELECTIVE
Prerequisite: Journalism

The goal of this course is for students to apply their skills based in media creation and apply it to more community based projects. While leading Journalism students in the creation of the annual yearbook, Advanced Journalism students will be producing more digital content for public consumption. Ranging from online articles, podcasts, and digital look-books, students will demonstrate their collaboration skills, ability to hold professional interviews, and photography skills. Students will still be a contributor to MVTV, but their roles are more rooted in production of digital content other than the yearbook. Advanced Journalism students must be able to meet production deadlines, collaborate with students in Advanced Journalism and Journalism, and take accountability for their roles.

CREATIVE WRITING (005)

1 semesters/1 credits
GRADE 10-12 ELECTIVE

Creative writing is largely based on Iowa Common Core Standards and the National Council of Teachers of English. Students in this elective have lessons and activities that reinforce and develop skills in their descriptive writing abilities. Students will be engaged in a variety of writing including children's literature, poetry, prose, blogs, adolescent literature, nonfiction, and fiction writing. The activities meet standards regarding literary range, periods/genres, textual analysis, voice, audience, form/technique, research technology, diversity, and purpose.

INDEPENDENT NOVELS (012)

1 semester/1 credit
GRADE 11-12 ELECTIVE

This class is designed for students who are looking to independently read a number of novels over the course of the semester in, but not limited to, these genres: Teen Novels, Non-Fiction, Classic Literature, Mystery, and Science Fiction/Fantasy. Each student will be expected to read at least two novels per quarter for a total of four over the course of the semester. While reading these novels, students will be expected to log what they're reading as well as complete various activities based on each novel, often asking them to respond critically. Students will generally be self-directed in this course.

MATHEMATICS

(Three total years of Math is required for graduation for the graduating class of 2025.
Four total years of Math during High School is required for students in the class of 2026 and beyond.
Students who are college bound are recommended to take Pathway Two: Algebra I, Geometry and Algebra II)
Math Pathway determination will be recommended by Math Instructors based on student progress in prior math courses and testing scores.

Pathway One	Pathway Two	Accelerated Pathway
PRE-ALGEBRA (694/694B) 2 semesters/2 credits GRADE 9 REQUIRED Pre-Algebra is intended to increase students' foundational mathematics skills and prepare them for Algebra 1. Topics to be covered include, but are not limited to, properties of numbers; ratio; proportion; exponents and radicals; the coordinate plane; basic geometric formulas; and solving first degree equations and inequalities.	**ALGEBRA I (025/025B)** 2 semesters/2 credits GRADE 9 REQUIRED Algebra I is the study of abstract systems, known as algebraic structures, and the manipulation of expressions within those systems. Topics to be covered include, but are not limited to, properties and operations of the real number system; evaluating rational algebraic expressions; solving/graphing first degree equations; translating word problems to equations; polynomials; the quadratic equation; and modeling linear data. **Algebra 1 is a graduation requirement for all students.**	**ALGEBRA I (025/025B)** 2 semesters/2 credits GRADE 8 REQUIRED Algebra I will provide each student with a background of fundamental algebraic operations as a means of solving everyday problems. A balance between theory and practice is used. Students will become familiar with polynomials, equations, inequalities, functions, and relations. A student must receive a passing grade the first semester in Algebra in order to continue into the second semester.
ALGEBRA I (025/025B) 2 semesters/2 credits GRADE 10 REQUIRED Prerequisite: Pre-Algebra Algebra I is the study of abstract systems, known as algebraic structures, and the manipulation of expressions within those systems. Topics to be covered include, but are not limited to, properties and operations of the real number system; evaluating rational algebraic expressions; solving/graphing first degree equations; translating word problems to equations; polynomials; the quadratic equation; and modeling linear data. **Algebra 1 is a graduation requirement for all**	**GEOMETRY (024/024B)** 2 semesters/2 credits GRADE 10 REQUIRED Prerequisite: Algebra I Geometry emphasizes an abstract approach to the study of two and three-dimensional figures. Topics include, but are not limited to, properties of and work with plane and solid figures; deductive methods of reasoning and logic; geometry as an axiomatic system including the study of postulates, theorems, and formal proofs; concepts of congruence, similarity, parallelism, perpendicularity, and proportionality; rules of angle measurement in triangles and	**GEOMETRY (024/024B)** 2 semesters/2 credits GRADE 9 REQUIRED Prerequisite: Algebra I Geometry emphasizes an abstract approach to the study of two and three-dimensional figures. Topics include, but are not limited to, properties of and work with plane and solid figures; deductive methods of reasoning and logic; geometry as an axiomatic system including the study of postulates, theorems, and formal proofs; concepts of congruence, similarity, parallelism, perpendicularity, and proportionality; rules of angle measurement in triangles and

students.	quadrilaterals; transformations; and transversals.	quadrilaterals; transformations; and transversals.
APPLIED GEOMETRY (695/695B) 2 semesters/2 credits GRADE 11 REQUIRED Prerequisite: Algebra I/Pre-Algebra Applied Geometry emphasizes a more tangible approach to the study of two and three-dimensional figures. Topics include, but are not limited to, properties of and work with plane and solid figures; inductive methods of reasoning and logic; concepts of congruence, similarity, parallelism, perpendicularity, and proportionality; rules of angle measurement in triangles and quadrilaterals; transformations; and transversals	**ALGEBRA II (023/023B)** 2 semesters/2 credits GRADE 11 REQUIRED Prerequisite: Geometry or Applied Geometry Algebra II is a continuation of the study of abstract systems, known as algebraic structures, and the manipulation of expressions within those systems. Topics include, but are not limited to, developing an understanding of the relationships between symbolic, graphic, tabular and verbal representations of functions; interpreting function behavior and composition; operations with rational and irrational expressions; factoring of rational expressions; linear equations and inequalities; quadratic equations; solving systems of linear and quadratic.	**ALGEBRA II (023/023B)** 2 semesters/2 credits GRADE 10 REQUIRED Prerequisite: Geometry or Applied Geometry Algebra II is a continuation of the study of abstract systems, known as algebraic structures, and the manipulation of expressions within those systems. Topics include, but are not limited to, developing an understanding of the relationships between symbolic, graphic, tabular and verbal representations of functions; interpreting function behavior and composition; operations with rational and irrational expressions; factoring of rational expressions; linear equations and inequalities; quadratic equations; solving systems of linear and quadratic.
APPLIED ALGEBRA II (026/026B) 2 semesters/2 credits GRADE 12 REQUIRED Prerequisite: Geometry or Applied Geometry Applied Algebra II is a continuation of the study of abstract systems, known as algebraic structures, and the manipulation of expressions within those systems. Topics include, but are not limited to, interpreting function behavior and composition; operations with rational and irrational expressions; factoring of rational expressions; linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; properties of higher-degree equations; and operations with rational and irrational exponents.	**Fourth Year Math Option** 2 Semesters/2 Credits Grade 9-12 REQUIRED Choose TWO SEMESTERS from the options below to fulfill this requirement.	**Fourth Year Math Option** 2 Semesters/2 Credits Grade 9-12 REQUIRED Choose TWO SEMESTERS from the options below to fulfill this requirement. **Fifth Year Math Option** 2 Semesters/2 Credits Grade 9-12 REQUIRED Choose TWO SEMESTERS from the options below to fulfill this requirement.

Fourth/Fifth Year Math Options

PRE-CALCULUS
1 semester/1 credit
Grade 11-12 ELECTIVE
Prerequisite: Algebra II
PreCalculus combines the study of Trigonometry, Elementary Functions, Analytic Geometry, and Mathematic Analysis topics as preparations for Calculus. Topics include, but are not limited to, the study of complex numbers; polynomial, logarithmic, exponential, rational, trigonometric, and circular functions and their relations, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; vectors; matrix algebra; sequences and series; modeling linear, quadratic, exponential, and trigonometric data; and limits and continuity.

TRIGONOMETRY
1 semester/1 credit
Grade 11-12 ELECTIVE
Prerequisite: Pre-Calculus (1 Semester)
Trigonometry is designed to continue to prepare students for postsecondary courses in calculus and trigonometry. Topics include, but are not limited to, trigonometric and circular functions, inverses and graphs; relations among the parts of a triangle; trigonometric identities and equations; solutions of right and oblique triangles; use of the unit circle; modeling trigonometric data; and complex numbers.

ACCOUNTING I (058)
1 semester/1 credit
GRADE 10-12 ELECTIVE
The general aim of Accounting I is for the students to develop basic skills needed to keep an orderly, accurate and useful set of business records using double-entry accounting. The students will learn and complete the steps of the accounting cycle for a service business organized as a sole proprietorship. If you are planning to run your own business or are considering a career in business, you should take this course.

ACCOUNTING II (059)
1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Accounting I
Accounting II will be a continuation of Accounting I but will be focusing on a double entry accounting for a merchandising business organized as a corporation. We will also be using and learning Quickbooks: a simple accounting software that tracks business income and expenses and organizes financial information.

ACT PREP (300/300B)
1 Semester/1 Credit
Grade 10-12 Elective
For students who want to prepare for future ACT testing or have an opportunity to practice skills prior to retesting in an effort to increase scores. Students will work within the ACT "On To College" curriculum which provides instruction within each of the ACT testing areas. Students will have opportunities to take practice exams and see explanations for submitted answers and work through test questions and subject content with a teacher.

COMPUTER SCIENCE PRINCIPLES (028)

1 semester/1 credit

GRADE 9-12 ELECTIVE

CSP introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. Topics covered: Digital Information, The Internet, Intro to App Design, Programming concepts/application, Cybersecurity and Global Impacts.

INTRODUCTION TO MANUFACTURING (699)

1 semester/1 credit

GRADE 10-12 ELECTIVE

Prerequisite: Geometry S1

Second Semester Course Only

Introduction to Manufacturing will introduce students to a wide variety of manufacturing practices through various lessons, techniques and projects. The class will contain modules on: Drafting/CAD, 3D printing, CNC machining in Wood.

PHYSICS (031/031B)- If not taken for required Science Credit

2 semesters/2 credits

GRADE 10-12 ELECTIVE

Prerequisite – Algebra I & Geometry

Physics is the study of how energy and matter interact from the atomic level to universe level. First semester will focus on classical physics (motion, forces, and energy) while the second semester focuses on physics within other sciences such as; space science, electricity, and nuclear physics. This physics course will have a strong emphasis in mathematics in computational thinking, as well as lab based learning and good laboratory practices.

Math Course for College Credit through IWCC:

IWCC College Algebra

1 semesters/1 credits

GRADE 11-12 Elective

Prerequisite – Algebra II

College Algebra provides an intensified study of the topics in algebra and prepares students for higher levels of mathematics. Topics include functions, exponents, logarithms, systems of equations, matrices, polynomials, and conic sections.

IWCC Tech Math

1 semesters/1 credits

Technical Math includes operations with real numbers, use of fractions, ratios, measurement conversion, algebraic equations, functions, geometry, and right angle trigonometry. Applications are designed to the program specific needs that students encounter in industrial settings.

Math Instruction as part of an Individualized Educational Plan (IEP)

SCIENCE

**(Three total years of Science is required for graduation:
Integrated Science, Biology and two additional Science semester courses)**

INTEGRATED SCIENCE (037/037B)

2 semesters/2 credits
GRADE 9 REQUIRED
This course will focus on different aspects of science each quarter. Topics will include the nature of science, basic physics concepts, introduction to space science, introduction to earth science, and basic chemistry concepts.

BIOLOGY (035/035B)

2 semesters/2 credits
GRADE 10 REQUIRED
This course is established so that students should obtain a mastery of certain fundamental biological concepts. Biological concepts covered include cells and cellular functions, cellular respiration and photosynthesis, genetics, and ecology.

ADVANCED BIOLOGY (033/033B)

1 semester or 2 semesters/1 credit or 2 credits
GRADE 10-12 ELECTIVE
Prerequisite: Biology (recommended "C" or higher)
This course will be a two semester course that will concern the student with the current topics in biology, touching on microbiology, forensics, and biotechnology. Semester one will cover microbiology, including bacteria, viruses, the diseases they cause, and the immune system. This will include a book study of the nonfiction "The Hot Zone" - a true account of the original Ebola outbreak. Semester two will conclude with an animal behavior unit. Semester two will include advanced genetics (pedigree charts, karyotyping, and epigenetics) and forensics - crime scene investigation, blood spatter, handwriting analysis, and hair/fiber identification.

ANATOMY & PHYSIOLOGY (034/034B)

2 semesters/2 credits
GRADE 10-12 ELECTIVE
Prerequisite: Biology (recommended "C+" or higher)
This course is designed to familiarize students with the structure of the human body and to prepare those who are interested for further specialized work in the field. There will be an intensive vocabulary load that must be mastered in order to understand the physiological concepts clearly and concisely. Each of the body systems will be covered in great detail.

CHEMISTRY (030/030B)

2 semesters/2 credits
GRADE 10-12 ELECTIVE
Prerequisite: Algebra I, (10th Grade only: have a A- or better in Integrated Science)
In Chemistry, students will study the properties and interactions of matter. First semester will focus on matter at the atomic scale (protons, neutrons, electrons, chemical bonding, and creating chemical formulas). Second semester focuses on large-scale changes involving matter (chemical reactions, stoichiometry, gas and solution properties, and acid/base chemistry). This chemistry course will utilize mathematics in computational thinking, as well as lab based learning and good laboratory practices.

PHYSICS (031/031B)

2 semesters/2 credits

GRADE 10-12 ELECTIVE

Prerequisite – Algebra I & Geometry

Physics is the study of how energy and matter interact from the atomic level to universe level. First semester will focus on classical physics (motion, forces, and energy) while the second semester focuses on physics within other sciences such as; space science, electricity, and nuclear physics. This physics course will have a strong emphasis in mathematics in computational thinking, as well as lab based learning and good laboratory practices.

STEM (029/029B)

2 semesters/2 credits

GRADE 10-12 ELECTIVE

Prerequisite – Integrated Science and Biology

Semester 1:

This STEM course integrates science, technology, engineering and mathematics concepts into cohesive learning units based on real-world issues. STEM is designed to promote independent problem solving by using STEM skills to allow students to develop a logical approach to find a solution to a problem. Students will be presented with a challenge, utilize the design cycle to research an idea, develop experiments, analyze data, and examine their work in order to make improvements. The main units will include space exploration, alternative energy, robotics, and electricity.

Semester 2:

Second semester STEM will consist of hands-on, student inquiry based units. Students will integrate science, technology, engineering, and math (STEM) fields through project-based learning. Creativity and collaboration is encouraged as students solve problems and design models. The main units will include Biomimicry, Biological Engineering, Environmental Engineering, and Robotics.

SOCIAL SCIENCES

(Three total years of Social Studies is required for graduation:
World History, American History, American Government, Behavioral Science)

WORLD HISTORY (048/048B)

2 semesters/2 credits

GRADE 9 REQUIRED

This year-long class will cover the human history of our world from Australopithecus to the Greeks to the Mongols to today. Focus will be given to how people and cultures have grown, changed, and adapted over the years. The roles of conflict, politics, economics, and environment will be considered as well. Studies will also cover world nations today and how they differ from one another, cooperate, and problem-solve individual crises.

AMERICAN HISTORY (044/044B)

2 semesters/2 credits

GRADE 10 REQUIRED

This course includes a survey of persons and events contributing to the building of our country. Man and his activities are studied to better understand how and why our conditions and institutions are developing in the present manner.

AMERICAN GOVERNMENT (040)

1 semester/1 credit
GRADE 11 REQUIRED
American Government is directed toward giving the student a foundation in the nature of our government. Since the government is unstable, subject to change with each new generation, it is hoped that the student will grasp an understanding of how our laws are made and how they may be changed.

BEHAVIORAL SCIENCES (046)

1 semester/1 credit
GRADE 11 REQUIRED
This course is a general survey in the Behavioral Sciences. The program of study will include topics in Psychology, current Sociology, Economics, Anthropology, and other Social Sciences. Particular focus will be paid to human behavior, group dynamics, and the human psyche.

MODERN WORLD HISTORY (697)

1 semester/1 credit (2nd semester only)
GRADE 11-12 ELECTIVE
PREREQUISITE: Recommended "B" average in previous social studies classes.
This semester long class will be a continuation of world history starting from the Industrial Revolution to today. The class will focus on changes in labor, politics, government, economics, diplomacy, and globalization and how these things created the world we see today. Additionally, students will learn historical thinking processes like comparison, contextualization, causation, and sourcing. As well as historical reading, writing, and research skills.

CIVIL RIGHTS (050)

1 semester/1 credit (1st semester only)
GRADE 11-12 ELECTIVE
PREREQUISITE: Recommended "B" average in previous social studies classes.
This course will focus on what scholars call the "long civil rights movement"–from Reconstruction (post-Civil War) to more current issues in civil rights. This class will explore the significance of issues such as race, class, gender, ethnicity, religion, and sexual orientation to the accessibility of civil rights in the United States historically and today.

SPORTS, SOCIETY, & CULTURE (043)

1 semester/1 credit (1st Semester only)
GRADE 11-12 ELECTIVE
In this course, students will examine the influences and effects of leisure activities and competitive sports on the history of our nation. Topics to be covered will be the origin and expansion of mainstream sports; influences of politics, race and gender on sports; the influences of technology, media, and economics on sports; and the effects of sports on the world.

ECONOMICS (049)

1 semester/1 credit (2nd Semester only)
GRADE 11-12 ELECTIVE
Economics course provides students with an overview of economics with primary emphasis on the principles of microeconomics and the U.S. economic system. This course may also cover topics such as principles of macroeconomics and comparative economics. Economic principles may be presented in formal theoretical contexts, applied contexts, or both.

ACT PREP

ACT PREP (300/300B)

1 Semester/1 Credit
Grade 10-12 Elective

For students who want to prepare for future ACT testing or have an opportunity to practice skills prior to retesting in an effort to increase scores. Students will work within the ACT "On To College" curriculum which provides instruction within each of the ACT testing areas. Students will have opportunities to take practice exams and see explanations for submitted answers and work through test questions and subject content with a teacher.

AGRICULTURE

INTRODUCTION TO AGRICULTURE (133/133B)

2 semesters/2 credits
GRADE 9-12 ELECTIVE

The introductory course for the Agriculture, Food and Natural Resources provides a knowledge base and technical skills in all aspects of the Ag industry. Students will learn an array of topics including ag careers, plants, animals, leadership, FFA and supervised agricultural experiences (SAE). Learning in this course happens through labs, projects, traditional teaching methods and field trips. Students get to utilize the plant tower to grow gardens, dissections and more hands-on experiences.

ANIMAL SCIENCE I (129)

1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Intro to Agriculture S1 or S2

The animal science course will include information about the care and management of companion (small) and farm (large) animals. Topics include history of animals, handling & safety, anatomy and physiology, nutrition, behavior, etc. Students will learn based on traditional teaching methods, laboratory activities, projects, and real life experiences. Students will also have supplemented activities through supervised agricultural experiences and leadership programs and activities.

ANIMAL SCIENCE II (143)

1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Animal Science I

This course will include advanced principles of those studied in animal science 1. Topics include animal digestion & nutrition, genetics, breeding & reproduction, animal health & veterinary practices, as well as the selection and marketing of animals and their products. This class will again discuss an array of animal species partially tailored to the students interest in the class. Students will learn based on traditional teaching methods, laboratory activities, projects, and field trips/real life experiences. Students will also have supplemented activities through supervised agricultural experiences and leadership programs and activities.

PLANT SCIENCE I (128)

1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Intro to Agriculture S1 or S2

Plant science will focus on studying topics of plant anatomy and physiology, taxonomy, soil, flowers, hydroponics, etc. Students will manage our Tower Gardens to grow vegetables hydroponically. Learning will happen through traditional teaching methods, lab activities, projects, etc. Students will also have supplemented activities through supervised agricultural experiences and leadership programs and activities.

PLANT SCIENCE II (131)

1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Plant Science I

This course includes advanced principles and communication skills that build on the knowledge and skills learned in Plant Science 1. Students will manage our Tower Gardens to grow vegetables hydroponically. Learning will happen through traditional teaching methods, lab activities, projects, etc. Students will also have supplemented activities through supervised agricultural experiences and leadership programs and activities.

AG BUSINESS FUNDAMENTALS (130)

1 semester/1 credit
GRADE 11-12 ELECTIVE
Prerequisite: Intro to Agriculture S1 or S2

This course covers skills necessary for entry into employment or furthering education in an agricultural business. The course includes the study of careers in agriculture, business planning, creating and analyzing financial information, developing business plans, and using sales and marketing principles. Students will learn through traditional teaching methods and projects. Students will also have supplemented activities through supervised agricultural experiences and leadership programs and activities.

AG Leadership (134)

1 semester/1 credit
GRADE 11-12 ELECTIVE
Prerequisite: Intro to Agriculture S1 or S2

This class will help students develop leadership skills with a focus on opportunities in the agriculture industry. Topics may include but are not limited to human relationships and effective communication, decision making and problem solving, leadership qualities and styles, etc. Students will learn through traditional teaching methods and projects. Students will also have supplemented activities through supervised agricultural experiences and leadership programs and activities.

ART

DRAWING (104)

1 semester/1 credit
GRADE 9-12 ELECTIVE (Semester 1 only)

Drawing is a one-semester course focusing on realism in various drawing media. Students will explore pencil, ink, charcoal, pastel, oil pastel, and scratch board. WIC Art Show participation is expected. Drawing may be used as a prerequisite to Painting. Advanced independent study is possible (Advanced Visual Art) with successful completion and teacher approval.

2D DESIGN (106)

1 semester/1 credit

GRADE 9-12 ELECTIVE (Semester 1 only)

2D Design is a one-semester course focusing on 2D art processes. Students will explore block printing, collage, digital photography, mixed media, mosaic, and painting. WIC Art Show participation is expected. 2D Design may be used as a prerequisite to Painting. Advanced independent study is possible (Advanced Visual Art) with successful completion and teacher approval.

PAINTING (105)

1 semester/1 credit

GRADE 10-12 ELECTIVE (Semester 1 only)

Prerequisite: Drawing or 2D Design

Painting is a one-semester course focusing on building skill with various painting media. Students will explore watercolor, tempera, oil, and acrylic. Students will work with many subjects from portraiture to still life to abstraction. Emphasis will be placed on students developing a personal style of painting. WIC Art Show participation is expected. Advanced independent study is possible (Advanced Visual Art) with successful completion and teacher approval.

CRAFTS (107)

1 semester/1 credit

GRADE 9-12 ELECTIVE (Semester 2 only)

This one-semester class focuses on artwork made from traditional craft materials. Many of the projects students make will be functional in addition to artistic. Projects will include beaded jewelry, weaving, clay, batik, and mask making. WIC Art show participation is expected. Crafts may be used as a prerequisite to Ceramics. Advanced independent study is possible (Advanced Visual Art) with successful completion and teacher approval.

SCULPTURE (101)

1 semester/1 credit

GRADE 9-12 ELECTIVE (Semester 2 only)

Sculpture is a one-semester course where students create three-dimensional works from several media. Units will include cardboard, clay, wire, casting, and carving. WIC Art Show participation is expected. Sculpture may be used as a prerequisite to Ceramics. Advanced independent study is possible (Advanced Visual Art) with successful completion and teacher approval.

CERAMICS (102)

1 semester/1 credit

GRADE 10-12 ELECTIVE (Semester 2 only)

Prerequisite: Crafts or Sculpture

This semester course will focus on creating three-dimensional work using clay. Attention is paid to the various forming methods and the stages through which clay progresses from the raw material to the finished glazed piece. WIC Art Show participation is expected. Advanced independent study is possible (Advanced Visual Art) with successful completion and teacher approval.

ADVANCED VISUAL ART (108/108B)

2 semesters/2 credits
GRADE 11-12 ELECTIVE
Prerequisite: Instructor permission is required
This is an independent study course designed for experienced art students. Students may expand their expertise in a particular form or style, explore a topic in greater detail, or develop more advanced skills in a chosen media.

BUSINESS EDUCATION

INTRODUCTION TO BUSINESS (052)

1 semester/1 credit
GRADE 9-12 ELECTIVE
This course is an introduction to the business world. Topics covered include: economics, entrepreneurship, role of government in businesses, marketing, human resources, and business law. If you are going into any aspect of business for college or for your career - this is a good introduction course to take.

ACCOUNTING I (058)

1 semester/1 credit
GRADE 10-12 ELECTIVE
The general aim of Accounting I is for the students to develop basic skills needed to keep an orderly, accurate and useful set of business records using double-entry accounting. The students will learn and complete the steps of the accounting cycle for a service business organized as a sole proprietorship. If you are planning to run your own business or are considering a career in business, you should take this course.

ACCOUNTING II (059)

1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Accounting I
Accounting II will be a continuation of Accounting I but will be focusing on a double entry accounting for a merchandising business organized as a corporation. We will also be using and learning Quickbooks: a simple accounting software that tracks business income and expenses and organizes financial information.

ADVANCED BUSINESS (6000)

1 semester/1 credit
Grade 9-12 elective
Prerequisite: Intro to Business
This course is a continuation of Intro to Business is designed for students with a strong interest in business principles, where they will dive deeper into complex business concepts like strategic management, financial analysis, marketing strategies, business ethics, and leadership, applying their knowledge through real-world case students, simulations, and project-based learning to prepare for future business careers or higher education in business fields.

SPORTS MANAGEMENT (6001)

1 semester/1 credit
Grade 10-12 elective
Prerequisite: Intro to Business

This course is designed to provide students with an overview of sports management issues, trends and career opportunities. The course will examine marketing, financial, ethical, and legal management principles and apply those principles to amateur, professional and lifestyle sport settings.

COMPUTER SCIENCE

COMPUTER SCIENCE PRINCIPLES (028)

1 semester/1 credit
GRADE 9-12 ELECTIVE

CSP introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. Topics covered: Digital Information, The Internet, Intro to App Design, Programming concepts/application, Cybersecurity and Global Impacts.

PC SUPPORT I [NET790] (057)

1 semester/1 credit/3 college credits (Iowa Western)
GRADE 10-12 ELECTIVE
First Semester Only

PC Support I introduces computer hardware and software concepts necessary for an entry-level computer repair technician. Students learn to troubleshoot, repair, upgrade, and maintain PC hardware and software.

OPERATING SYSTEMS [CSC121] (630)

1 semester/1 credit/3 college credits (Iowa Western)
GRADE 10-12 ELECTIVE
Prerequisite: PC Support is encouraged prior to taking this course
Second Semester Only

Operating Systems is a hands-on course introducing the concepts of operating systems, including process, memory and storage management, protection, security and distributed systems. Students learn basic command line tools, scripting, file management and commands for several different operating systems.

FAMILY & CONSUMER SCIENCES

INTRODUCTION TO FAMILY & CONSUMER SCIENCES [FCS] (070)

1 semester/1 credit
GRADE 9-12 ELECTIVE
1st Semester Only

Introduction to FCS exposes students to all of the knowledge and skills that are used in the Family and Consumer Sciences field. to manage. Course topics include foods and nutrition; apparel; child care and development; housing, interior design, consumer decisions; personal financial management; interpersonal relationships; and careers available in family and consumer sciences.

CHILD DEVELOPMENT (074)

1 semester/1 credit
GRADE 9-12 ELECTIVE

This course covers intellectual, physical, social and emotional development of a child from conception through adolescence. It discusses readiness for parenting, parenting techniques, guidance of children and various childcare options. Part of the class time will be spent exploring careers in childcare. Students will have the options of experiencing the "Empathy Belly", care and handling of the "Real-Care" babies, and opportunities to work with children in day-care or school settings. There are alternative assignments available to those who choose not to care for “Real-Care” babies.

FOODS 1 (76A)

1 semester/1 credit
GRADE 9-12 ELECTIVE

This course will cover healthy eating habits, My Plate guidelines, kitchen utensils and tools, using recipes, safety and sanitation procedures, and simple recipe preparation. Food preparation labs will include dairy foods, eggs, fruits and vegetables, cereals, pasta, cookies, cakes, and quick breads.

FOODS 2 (76B)

1 semester/1 credit
GRADE 9-12 ELECTIVE
Prerequisite: Basic Nutrition & Food Prep

This course covers the principles of meal planning, meat cookery, pastry and yeast bread preparation, soups and sauces, and management of food resources. The students will use the food preparation skills they are further developing to prepare a meal for a guest within a set food budget.

CULINARY ARTS/HOSPITALITY & TOURISM (071/071B)

2 semesters/2 credits
GRADE 11-12 ELECTIVE
Prerequisite: Food for Life/ (Foods 2)

This program is divided into two courses, Hospitality & Tourism and Culinary Arts. The Culinary Arts portion is designed to help high school students who have an interest in pursuing a career in food service and/or want to gain an understanding of the industry through education as well as direct exposure. The Hospitality and Tourism portion is designed to help high school students take steps toward promising hospitality careers. Students will have the opportunity to participate in events to utilize culinary, management, and customer service skills learned in the classroom. Students apply learned theory and skills during authentic experiences. In the kitchen, students create their own food products from scratch. This course is designed to teach students all the fundamentals needed to work and succeed in any area of the food service operation such as restaurants, catering, kitchen, or industrial kitchen. Students may also take the fundamental skills they’ve learned onto culinary school for more advanced instruction. School-based laboratory experiences are essential for students to develop skills in the hospitality and tourism industry. Career and technical student organizations are integral, co curricular components of each career and technical education course. These organizations serve as a means to enhance classroom instruction while helping students develop leadership abilities, expand workplace-readiness skills, and broaden opportunities for personal and professional growth.

FOREIGN LANGUAGE

Students must successfully pass the first semester of each Spanish course in order to be permitted to continue on to the second semester. If a student does not pass the first semester, they can retake the course the following year.

SPANISH I (015/015B)

2 semesters/2 credits
GRADE 9-12 ELECTIVE
Prerequisite: Strongly recommended to have at least a "C+" average in English
Students will learn the basics of communication in the Spanish language. The focus of the class will be on developing the skills of speaking, listening, reading, and writing in Spanish for use in real world situations. This course also includes study of culture in the Spanish speaking world.

SPANISH II (016/016B)

2 semesters/2 credits
GRADE 10-12 ELECTIVE
Prerequisite: Spanish I
Students will further their ability to communicate in Spanish. Again, the focus of the class is on developing the skills of speaking, listening, reading, and writing in Spanish for use in real world situations. There will be an emphasis on class and small group discussion. This course also includes study of culture in the Spanish speaking world.

SPANISH III (017/017B)

2 semesters/2 credits
GRADE 11-12 ELECTIVE
Prerequisite: Spanish II
Spanish III is designed for students with a sincere interest in learning Spanish. Students will be able to communicate on an advanced level in Spanish through developing the skills of speaking, listening, reading, and writing in real world situations. There is a greater emphasis on reading than in previous levels. Again, students will also be exposed to the culture of the Spanish speaking world.

SPANISH IV (018/018B)

2 semesters/2 credits
GRADE 12 ELECTIVE
Prerequisite: Spanish III
Spanish IV is designed for students with a sincere interest in learning Spanish. This course will prepare students for the study of Spanish in college. Students will continue to develop high level skills in speaking, listening, reading, and writing. Students will be exposed to the works of well-known authors in the Spanish speaking world. Students will also participate in the seal of biliteracy exam to see if they are able to graduate high school and be considered biliterate.

GENERAL ELECTIVES

Sports Officiating (120)

1 semester/1 credit
GRADE 9-12 ELECTIVE
Through in-class online guided course work students will learn the skills necessary to become youth sport(s) referee in various sports. This course is designed to teach students skills for what to look for during a game or match, the rules of the game or competition and how to make calls during live events. In addition to online classwork, students will practice their skills during hands-on skills practices. Current sports available are: Basketball, Football, Volleyball, Soccer, Flag Football, Baseball, Softball, Wrestling, Track & Field.

HEALTH

HEALTH (123/123B)

1 semester or 1 year/1 credit or 2 credits
GRADE 9-12 ELECTIVE
This course will cover various aspects of your health including mental health (personality, self-esteem, managing stress, understanding mental disorders), social health, and physical wellbeing (personal care, communicable and no communicable diseases, food and nutrition, eating disorders, healthy diets, lifestyle).

HEALTH SCIENCE

The Health Science program will provide students with transferable skills and technical experience to meet the needs of the rapidly expanding health care industry. Students are actively involved in HOSA: Future Health Professionals and will represent themselves and the school through competition of knowledge acquired in the classroom at the state and national levels.

HEALTH SCIENCE I (060)

1 semester/1 credit
GRADE 11-12 ELECTIVE (Semester 1 only)
Prerequisite: Instructor approval
Students will have a basic introduction to health careers, health care systems, professionalism, and legal and ethical responsibilities of the health care worker. The communication process will be introduced as well as an understanding of patients' needs and behaviors. Students will learn First Aid/CPR and BLS which prepares the students with lifesaving, hands-on instruction in many emergency situations.

HEALTH SCIENCE II (061)

1 semester/1 credit
GRADE 11-12 ELECTIVE (Semester 2 only)
Prerequisite: Health Science I
Health Science II is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will have hands-on experiences for continued knowledge and skill development.

MEDICAL TERMINOLOGY [HSC 113] (064)

1 semester/1 credit/3 college credits (Iowa Western)
GRADE 12 ELECTIVE (Semester 1 only)

Medical Terminology is the language of health care and provides transferable skills for the student regardless of the health career they pursue. This course gives the student a working knowledge of the roots, prefixes and suffixes or commonly used medical terms related to anatomy, physiology, pathology, diagnostics, and treatments. Emphasis is placed on the correct spelling and pronunciation of the vocabulary.

ANATOMY & PHYSIOLOGY FOR ALLIED HEALTH PROGRAMS [HSC128] (066)

1 semester/1credit/3 college credits (Iowa Western)
GRADE 12 ELECTIVE (Semester 2 only)

Survey of Anatomy and Physiology for Allied Health provides a basic knowledge of the structure, organization, terminology, and pathology of the human body and it's organ systems. Body systems and their functions are covered in detail, allowing the student to understand how the body works as a whole.

NURSE AIDE [HSC 172] (062)

1 semester/1 high school credit/3 college credits (Iowa Western)
GRADE 11-12 ELECTIVE (Semester 2 only)

Nurse Aide is the 75-hour certified nurse aide (CNA) course. It allows students to meet the training requirements of the Omnibus Budget Reconciliation Act of 1987 (OBRA) for nurse aides working in nursing facilities and skilled nursing facilities. Emphasis in the course is on achieving a basic level of knowledge and demonstrating skills to provide safe and effective resident care. The clinical portion of the course may require students to attend in the evening or on the weekend. Students will be required to have a background check and TB test completed prior to the start of the course. Covid testing or vaccination may be required per law or facility.

INDUSTRIAL TECHNOLOGY

BEGINNING WOODS (082)

1 semester/1 credit
GRADE 9-12 ELECTIVE

Beginning Woods will introduce students to general woodworking practices through various lessons, techniques and projects. Students will learn and demonstrate safe use of hand tools, power tools, finishes and adhesives. Students will also learn basic skills related to material selection, measurements, joinery methods, project management and finishing. The course is designed as a broad exposure to woodworking and will allow opportunities for students to use many different tools and machines in the shop. This class is a prerequisite for Advanced Woods.

ADVANCED WOODS (083)

1 semester/1 credit
GRADE 9-12 ELECTIVE
Prerequisite: Beginning Woods

Advanced Woods will build on the student's woodworking skills through student-selected projects. Students will learn and demonstrate safe use of shop tools, finishes and adhesives. In addition, the course will cover: advanced joinery, fastening techniques, jig building, material selection, commercial shop procedures, time management, project cost estimation and professional practices. Quality of work is a key component in this course. The course is designed as an additional step for students who are considering woodworking as a career or hobby.

INTRODUCTION TO MANUFACTURING (699)

1 semester/1 credit
GRADE 10-12 ELECTIVE
Prerequisite: Geometry S1
Second Semester Course Only
Introduction to Manufacturing will introduce students to a wide variety of manufacturing practices through various lessons, techniques and projects. The class will contain modules on: Drafting/CAD, 3D printing, CNC machining in Wood.

INTRO TO INDUSTRIAL TECHNOLOGY (6992)

1 semester/1 credit
Grade 9-12 Elective
Prerequisite: None.
This class is not required for other courses in Industrial Technology. The focus of this course is a broad overview of the Industrial Technology courses offered at the school. Students will complete units on Safety, Woodworking Tools and Materials, Welding and Cutting processes, and CAD design. Students do not need prior knowledge of these topics to take this course.

INTRODUCTION TO WELDING (6993)

1 semester/1 credit
Grade 9-12 Elective
Prerequisite: None
This course introduces welding theory and basic foundational knowledge for students to begin welding. The class will focus on welding safety, print symbols, joint types, processes and inspection. Students will practice with simulators in the classroom and then move to the shop for an introduction to: SMAW (Stick), GMAW (Mig), OFC (Oxy- Fuel Cutting), and PAC (Plasma Arc Cutting).

Stick Welding (SMAW) (6990)

1 semester/1 credit
Grade 9-12 Elective
Prerequisite: Passing grade in Introduction to Welding
This course builds on the skills and knowledge learned in Introduction to Welding. Students will review shop safety, fundamentals for SMAW (stick). The class will then focus on proficiency with SMAW through multiple joint types and positions. The class will have a final project.

MIG Welding (GMAW) (6991)

1 semester/1 credit
Grade 9-12 Elective
Prerequisite: Passing grade in Welding I
This course builds on the skills and knowledge learned in Introduction to Welding and Welding I. Students will review shop safety, fundamentals for GMAW (MIG). The class will then focus on proficiency with GMAW through multiple joint types and positions. The class will have a final project.

MUSIC-INSTRUMENTAL

CONCERT BAND (115/115B)

2 semesters/2 credits
GRADE 9-12 ELECTIVE
This course is for students with the desire to learn performance and concert skills with a wind band instrumental focus. Students explore different styles of music, music history and music theory through band music literature. The band performs at regular music department concerts, football and basketball games, honor bands and at community functions. *Therefore, students must be available to participate in rehearsals and performances outside the regular school day. Previous band experience or instructor's permission required.*

JAZZ BAND (117/117B)

2 semesters/0.8 credits
GRADE 9-12 ELECTIVE
Prerequisite: Concurrent enrollment in concert band
This course is for students with a desire to perform and learn about music written in the jazz style. They can expect to explore the influence of jazz in popular music, jazz history, music theory, and improvisation through the rehearsal and performance of music from this genre. The band will perform at regular music department concert and community events, as well as travel to contests around the southwest Iowa area. *Therefore, students must be available to participate in rehearsals and performances outside the regular school day. Previous band experience or instructor's permission required (electric guitarists, bassists, piano players, and drum set players not in band will need instructor's permission).*

MUSIC-VOCAL

EXPLORING MUSIC (119/119B)

2 semesters/2 credits
GRADE 9-12 ELECTIVE
What comes to mind when you hear the word 'music'? Do you think about your favorite band or artist? In this course, you'll learn about how we hear music; how music affects our lives; essential elements of music like rhythm, pitch, and harmony; different musical genres; musical theater; music composition and arranging; and the history and culture of music over the years. Dive into the world of Exploring Music! No pre-requisite or music experience is required for this course.

MIXED CHOIR (116/116B)

2 semesters/2 credits
GRADE 9-12 ELECTIVE
This course is for students with the desire to learn performance and concert skills for a wide variety of vocal music. Students explore different styles of music, music history and music theory through vocal music literature. The choir performs at regular music department concerts, honor choirs and at community functions. *Therefore, students must be available to participate in rehearsals and performances outside the regular school day.*

SHOW CHOIR (118/118B)

2 semesters/1.2 credits

GRADE 9-12 ELECTIVE

Prerequisite: Instructor Permission Required

This course is for students with the desire to learn about performing in a show choir, including both singing and dancing. Students must audition and be accepted into the group before registering for this class. Many different musical styles will be explored and included in a show which will be performed at various competitions throughout the year. During the second semester, students will also prepare and present a dinner show to be held at the end of the school year. The group will also perform at regular concerts, as well as community functions.
Therefore, students must be available to participate in rehearsals and performances outside the regular school day. Previous choir experience is recommended, but not required.

PHYSICAL EDUCATION

(Students are required to take at least one semester of Physical Education each year. Waivers of this requirement are available at the discretion of the high school counselor.)

FITNESS & STRENGTH TRAINING (121/121B)

1 semester/1 credit

GRADE 9-12 ELECTIVE

Fitness and strength training will develop a student's skills with free weights and universal stations. It also includes sprinting, flexibility, and aerobic training. Basic principles concerning anatomy and muscle groups will also be covered. Students are required to wear tennis shoes and provide their own gym clothes.

SEMINAR

FRESHMEN SEMINAR (145-148)

(Strength & Fitness 101, Lifetime Activities, Living on Your Own, Careers & Personal Finance)

1 quarter each/0.5 credits per section

GRADE 9 REQUIRED

Strength and Fitness 101 will have a primary focus on being comfortable with a loaded bar and learning the movement of lifts. The 4 "power lifts" will be introduced (back squat, bench press, deadlift and clean movement) and are widely considered the foundational strength movements.

Lifetime Activities is when students will learn to play games that they can play at any age (pickleball, cornhole, ladder golf, kan ball). Students will also spend time walking (the ultimate "lifetime activity") and doing school service projects.
Living on your Own will be about learning things you need to know when you live on your own such as laundry, budgeting, cooking and creating a cookbook you can use when you ARE on your own.
Careers & Personal Finance will be about reviewing over careers and post-secondary education from 8th grade. Applying for a job as well as on the job topics will also be covered. Personal Finance topics include taxes, checking & savings accounts, auto insurance and credit.

SENIOR SEMINAR (708)

1 semester/1 credit

GRADE 12 REQUIRED

This class will be following the course "Financial Skills for Smart Living" provided by University of Northern Iowa. Through reading, lectures, speakers, videos, and assignments, students will gain a better understanding of various topics of personal finance. These topics include setting goals, budgeting, saving, investing, insurance, credit, loans, making home and automobile purchases, retirement and estate planning. We will also be covering post-secondary topics as well such as applying for colleges, Free Application for Financial Aid (FAFSA), scholarship, etc.

SENIOR TEACHER'S AIDE

SENIOR TEACHER'S AIDE (174)

1 semester/0.25 credit

GRADE 12 ELECTIVE

This course does not count towards total class counts for academic eligibility for athletics. This course is only available to current year Seniors. Seniors can assist teachers in their classrooms with various tasks and duties as assigned. Opportunities are available at the Elementary, Middle and High School levels.

This course requires Teacher permission to be given to the Counselor prior to registering. For Teachers within Middle and Elementary classrooms, Principal permission is also required.

WORK-BASED LEARNING

Work Based Learning

1 Semester/1 Credit

GRADE 11-12 ELECTIVE

Prerequisite: Any CTE Class (Ag, Business, Computer Science, FCS, Health, Industrial Tech)

Work-Based Learning (WBL) connects classroom learning with real workplaces through employer engagement and structured reflection. This class has a required application process to get into this course. A learning opportunity in an on-the-job setting that allows high school students to gain work experience directly related to an academic major and/or career by having the opportunity to explore a career. Students receive the amount of credits that reflect the amount of periods they will be attending their work experience hours at the business. For example, work during one class period, you would earn one credit. The student is required to complete weekly requirements in addition to a final capstone for the course. The final capstone reflects what the student has learned from the experience and how they have grown as a student.

STUDY HALL

STUDY HALL (421/421B)

1 semester/0 credit

GRADE 9-12

This course does not earn credit towards graduation. This course is designed to assist students who may need extra time during the school day for studying, work time on assignments or direct access to a teacher for additional help. This course can only be taken a maximum of once per semester. Permission from the Counselor is required for registration.

MV IWCC BUSS CENTER

Grade 11-12 Elective
Full Year Program
Class Periods 1-3

Construction Management Certificate (424)

Semester One	Semester Two
8:00-10:30 am M/W/TH/F (no class Tuesdays)	**8:00-10:30 am M/W/TH/F (no class Tuesdays)**
Building Construction Techniques I (CON170) year long course 2 total credits/6 total IWCC credits	
Building Construction Techniques I provides the practical application of selected building techniques. Students learn construction techniques in wall and ceiling systems, stair construction, and interior finishing.	
Principles Building Construction I (CON180) 1 semester/1 credit/3 college credits (Iowa Western)	**Blueprint Reading (CON114)** 1 semester/1 credit/3 college credits (Iowa Western)
Principles of Building Construction I provides an introduction to the building construction process. It emphasizes construction safety issues and building code requirements; characteristics, use, and selection of building materials; and selection, care, and use of hand and power tools.	Blueprint Reading presents an introduction to the fundamentals of blueprint reading. Students get hands-on experience with residential and commercial drawings, and specifications. Students are introduced to the symbols, lines, schedules, specifications, and how they are associated with blueprints
Technical Math (MAT743) 1 semester/1 credit/3 college credits (Iowa Western)	**Construction Safety (CON266)** 1 semester/1 credit/3 college credits (Iowa Western)
Technical Math includes operations with real numbers, use of fractions, ratios, measurement conversion, algebraic equations, functions, geometry, and right angle trigonometry. Applications are designed to the program specific needs that students encounter in industrial settings.	Construction Safety provides students with the requirements and expectations of safety for the commercial and residential construction industry. Students learn the elements of an occupational safety program, safe working environment, personnel protection and welfare, occupational health hazards, safety laws and legal aspects of safety. Students receive an OSHA certification upon successful completion of this safety course.

MV IWCC BUSS CENTER

Grade 11-12 Elective
Full Year Program
Class Periods 1-3

Welding Certificate (422)

Semester One	Semester Two
8:00-10:30 am M/T/W/TH (no class Fridays)	**8:00-10:30 am M/T/W/TH (no class Fridays)**
Arc Welding (WEL149) 1 semester/1 credit/3 college credits (Iowa Western)	**Oxy-Acetylene Welding & Brazing (WEL103)** 1 semester/1 credit/1 college credit (Iowa Western)
Fundamentals of Shielded Metal Arc Welding covers the fundamentals and technical knowledge of arc welding in the flat position on mild steel with different rods on different thicknesses of metal. Students practice safe welding	Oxy-Acetylene Welding & Brazing introduces students to the fundamentals of oxyacetylene welding, cutting, and brazing. This course familiarizes students with the safe operation of the cutting torch, the use of different sizes of torch tips, and various weld joints and positions.
Gas Metal Arc Welding (WEL256) 1 semester/1 credits/4.5 college credits (Iowa Western)	**Print Reading and Welding (WEL233)** 1 semester/1 credit/3 college credits (Iowa Western)
Gas Metal Arc Welding (GMAW) covers safety and GMAW techniques in flat, horizontal, vertical and overhead positions. This course provides a variety of hands-on projects/experiments in the laboratory setting.	Print Reading and Welding Symbol Interpretation provides instruction in interpreting elements of welding prints (drawing or sketches), focusing on measurement, American Welding Society welding symbols, and fabrication requirements. Students will understand how to prepare, assemble and tack welding parts according to drawings or sketches, using proper material and tools.
	Technical Math (MAT743) 1 semester/1 credit/3 college credits (Iowa Western)
	Technical Math includes operations with real numbers, use of fractions, ratios, measurement conversion, algebraic equations, functions, geometry, and right angle trigonometry. Applications are designed to the program specific needs that students encounter in industrial settings.
	Intro to Fabrication (WEL208) 1 semester/1 credit/2 college credits (Iowa Western)
	Introduction to Fabrication covers tool usage, layout methods, and material estimation. Students learn basic fabrication techniques

MV IWCC BUSS CENTER

Grade 11-12 Elective
Full Year Program
Class Periods 1-3

Electromechanical Certificate (705)

Semester One	Semester Two
8:00-10:30 am W/TH/F (no class Mondays, Tuesdays)	**8:00-10:30 am M/W (no class TH/F)**
Motors & Controls (ELT215) 1 semester/1 credit/2 college credits (Iowa Western)	**Fundamentals of Electrical Theory (IND219)** 1 semester/2 credits/5 college credits (Iowa Western)
Motors and Controls stresses motor control systems, devices, circuit design and construction, and troubleshooting techniques. Specific topics will include electrical safety, lockout/tagout procedures, relays, timers, pilot devices, and solid state control technologies. Extensive laboratory exercises using industrial-grade components enhances classroom studies.	Fundamentals of Electrical Theory introduces the principles of electrical circuits. It includes the study of voltage, current, resistance, power, energy, magnetism, electromagnetism, circuit components, and transformers. Students analyze these devices in series, parallel, and series-parallel circuits using AC and DC voltage
Industrial Print Reading (IND217) 1 semester/1 credit/3 college credits (Iowa Western)	**Intro to Industrial Maintenance and Mechatronics (IND197)** 1 semester/1 credit/3 college credits (Iowa Western)
Industrial Print Reading prepares students to interpret prints relevant to industrial processes. Students learn line, symbol, and fundamental drawing practices using measuring tools and scales	Introduction to Industrial Maintenance and Mechatronics covers industrial technology disciplines with a focus on electrical mechanical systems and controls and maintenance operations. Topics include maintenance principles, record keeping, tools, fasteners, mechanical rigging and installation, and basic troubleshooting principles
Intro to 3D Printing (CAD290) 1 semester/1 credit/3 college credits (Iowa Western)	
Introduction to 3D Printing covers the current and emerging 3D printing applications, advantages, and limitations of this technology. Students will discuss 3D printing technology from a time and cost-saving viewpoint based on product requirements	