# Burke School District Mission Statement

Instilling a passion for lifelong learning in ourselves, our students, and our community!

## Burke School District Philosophy/Mission

In today's society, education is a continuous process of learning, not only for the present but for the future. Therefore, the district will provide an educational environment that promotes and enhances learning as a lifelong endeavor. In addition, the district believes that education is not just the development and refinement of mental capacity, but a process that assists the students in meeting their physical, social, aesthetic and emotional requirements.

The district will strive to provide stimulation and assistance so that each child develops in accordance with individual abilities, interests and potential. The responsibility of the school, therefore, is to help guide the individual in many and varied educational experiences so the he/she can develop into a wholesome, happy and productive person.

The district recognized the importance of the home as an influence upon the child and believes that a sympathetic, cooperative attitude between the teacher and parent is necessary in the development of a student's integrated personality.

The total staff of the school system constitutes an inestimable and lasting force in the development of the student. The teacher is the most significant influence in the school and must, therefore, possess and demonstrate dedication, enthusiasm and sensitivity. It is primarily the teacher's responsibility to provide the learning environment in the school that fosters maximum student growth and reflect individual differences.

It is further realized that mutual rapport among the home, student, staff, administration, school board, and total community is necessary to implement this policy.

The goal of this school district is to accept responsibility for the development of each child into an adult who can stand confidently, participate fully, learn continually and contribute meaningfully to our world.

# Language Arts

**English 1**

This freshman course is actually divided by semester into two main sub-courses: English 1 and Literature of a Time Period. English 1 focuses on writing, grammar, and vocab…all of which will be applied to various text. Literature of a Time Period focuses more on comprehending reading, analyzing text, and applying literary devices to text which is based on a particular time period. Students will be required to choose a book relating to the given time period. Book reports are required in this class. (400 pgs. per quarter)

**English II**

This class is divided by semester into two sub-courses: Speech and English / Literature. Speech is designed to prepare students to develop and express ideas and speak comfortably in front of others. It will require students to prepare speeches based on assigned topics, write outlines, and make presentations using proper format, logic, and evidence of topic. English Literature focuses on using reading material to understand and analyze text. Students will be required to read a variety of text ranging from novels to poetry to short stories. Literary elements / devices, vocabulary, grammar, and writing will also be a part of this course. Book reports are required in this class. (400 pgs. per quarter)

**English III**

English III is basically American Literature. AL is an advanced reading class that focuses on history and literature between the 17th-19th Centuries. Students in this class will be exposed to various forms of literature…all written by American authors. Students will examine and analyze the progression of American literature throughout six literary periods using different styles of text. Literary elements / devices will be applied to text as well as an emphasis on vocabulary and grammar. Book reports for extra credit are optional. (min. of 500 pgs. per quarter)

**English IV**

This senior English class is comprised of three basic units: British Literature, Senior Experience, and Writing Composition.

British Literature is an advanced reading unit that focuses on the history / background of various British styles of text. Throughout this unit students will analyze text for comprehension, interpretation, and application of literary devices.

Senior Experience is a required unit during the senior year that is worth one additional English credit and consists of four requirements for completion: research paper, product, presentation, and portfolio. Throughout this unit students will choose a topic, write a research paper based on the topic, build a physical product that will be presented in the spring, and compile a portfolio of their experiences throughout the unit.

Writing Composition is an advanced writing unit that focuses on the analysis and annotation of various styles of text and genres. Throughout this unit students will be exposed to short stories, quotes, poems, movies and documentaries, sonnets, and news articles.

Book reports for extra credit are optional. (min. of 500 pgs. per quarter)

**Criminal Literature**
One Semester, ½ credit
Grades 9-12

Criminal literature is a thematic literature course, in which students will read fun and engaging selections of mystery and crime literature across a variety of genres. Genres represented will include short stories, novels, and drama. This course will appeal to students who like to read, especially those who like a good "who-done-it?" While the focus of the course is literature, students will do some writing. Students will have the opportunity to solve mysteries as well as write them. Students will read for comprehension and discussion, as well as focusing on literary elements, such as plot, character, etc. Students will earn ½ credit of language arts elective.

**Cinema Composition**
One Semester, ½ credit
Grades 9-12

For kids who like movies, this is the writing class for them. Students will watch a variety of films throughout the semester (current movies, classics, documentaries, etc.) and will use these films as a launch pad for their writing. Examples of some types of writing that students will do include critiques, character analysis, opinion essays, journaling, and free-writing. Students will earn ½ credit of language arts elective.

# Math

## Algebra I

**Course Book: "Algebra I" Glencoe Mathematics, 2003**
**Prerequisites:**

-High School student or 8th Grade student with concurrence from parents, HS Math instructor, and principal.

-Understanding of basic mathematics (addition, subtraction, multiplication, and division), fractions, percentages, interpretations of graphs and charts, translation of simple word or verbal problems into basic algebraic expressions.

-Required math course for high school graduation

Algebra I develop the student's ability in mathematical reasoning, mathematical communication skills and terminology to properly deal with unknown values in problem-solving situations. Variables are introduced within mathematical expressions, equations developed and solutions derived utilizing a variety of processes and mathematical properties. Basic properties of real numbers, first order linear equations and inequalities, slope and y-intercept

computations, systems of equations with two variables, graphing equations in two-dimensional coordinate grids, polynomial and nonlinear functions, factoring polynomial functions , exponents, scientific notation, basic of area and perimeter for geometric shapes, statistics and probability are all covered in this initial high school mathematics course. A primary focus of Algebra I is to provide students with the tools and understanding for problem solving real world situations.

## Geometry

**Course Book: "Geometry" Glencoe Mathematics, 2004**

**Prerequisites:**

-Completion of Algebra I (or concurrent enrollment with consent of math instructor and administration)

-Ability to graph and label and subtract fractions and integers

-Basic perimeter, area, and volume computational skills

Geometry deals with the relationships of geometric figures with respect to sides, angles, measurements, and computations. The four major units of study for developing the course include 1) lines and angels 2) triangles 3) quadrilaterals and circles; and 4) area and volume determination. Accuracy and methods of both direct and indirect measurements, reasoning and proof, comprehension of the Pythagorean Theorem, Distance Formula, and Mid-Point Formula all play an important role in the student's ability to identify, effectively communicate using geometric terminology, and calculate unknown angles or segments of geometric figures. Proportionality, similarity, established relationships of theorems and measures of various polygons, triangles, or arcs of circles. Trigonometry is introduced to further the student's understanding for problem-solving unknown distances or angles when dealing with real-life situations and circumstances.

## Algebra II

**Course Book: "Algebra 2" Glencoe Mathematics, 2003**

**Prerequisites: Algebra I and Geometry**

Algebra II develops the student's mathematical skills to master advanced algebraic processes. Expanding on the lessons learned in Algebra I and integrating the concepts form Geometry, students are challenged beyond the basics of algebra to explore methods for solving single – or multi-variable equations. This course further investigates and integrates the use of technology of the graphing calculator to simplify computations and visualize equations and functions graphically. Operations with matrices are introduced to rapidly solve three variable systems of equations. Students will use of the Quadratic Formula and "completing the square" method in developing quadratic solutions, devise methods of solving polynomial equations of nth degree and develop scatter plots and linear programming to model real world data.

Units of advanced algebra presented in this course include 1) First-degree equations and inequalities; 2)Polynomials and radical equations; 3) Advanced functions and relations involving

conic sections (parabolas, ellipses, hyperbolas, and circles), rational equations, exponential and logarithmic relations; 4) Discrete mathematics involving arithmetic and geometric sequences/series and probability/statistics; and 5) Trigonometry functions expanding the basic trig functions previously investigated in geometry to include integrating the Law of Sines and Law of Cosines for determining unknown angles and distances in real world scenarios.

## Algebra 3 (Acellus)

**Course Book: No book is required for this course. All material is online**
**Online Resource: Acellus.com**
**Prerequisites: Algebra I, Geometry, and Algebra II**

Advanced Math Acellus™ offers math students a self-paced environment with a focus on preparing students for post-secondary math courses. This is a broad spectrum course designed to review every aspect of high school mathematics from basic Algebra I thru and including Pre-Calculus problem-solving skills. Online computer-based instruction provides general "classroom" style instruction, note boards, and progress checks to refine and expand mathematical skills acquired in prior high school math courses. Individualized instructor assistance is provided to improve student understanding of topics without interrupting the flow of the class. Algebra 3 is an outstanding preparations tool for the ACT and provides students an opportunity to achieve exceptional results on college entrance exams.

## Pre-Calculus

**Course Book: "Advanced Mathematical Concepts—Precalculus with Applications"**
**Glencoe 2004**
**Online Resources: www.amc.glencoe.com**
**Prerequisites: Algebra I, Geometry, and Algebra II**

Advanced Math (precalculus) is an "advanced degree" algebra course that not only prepares students planning to continue into Calculus, but also provides an outstanding, challenging math option for all students planning to continue into college. This course advances many elements previously presented in Algebra II, but integrates more real-world data and word problem providing students an opportunity to apply lessons learned to develop equations and derive solutions. Five major units presented in this course include; 1) Linear Relations and Functions dealing with systems of equations, nature of special graphs, and polynomial and rational functions; 2)Trigonometry---functions, identities and equations, vectors and parametric equations; 3) Advanced Functions and Graphing---polar coordinates and complex numbers,

conic sections, exponential and logarithmic functions; 4)Discrete Mathematics---continues where Algebra II left off; and 5) Calculus---integrals, derivatives, anti-derivatives, and limits.

# Science

### Biology

The course offers a comprehensive study of life. Units that are covered provide the opportunity to learn about ecology, the life of a cell, genetics, evolution, various unicellular organisms, plants, invertebrates, vertebrates, and the working of the human body. To further enhance the course, computer labs are included along with various dissections of lab specimens.

### Physical Science

The course provides the opportunity to study the physical nature of science and how this relates to our everyday lives. Topics covered include the relationship of energy and motion, how electricity and magnetism are important to us, various concepts of wave motion and how we use it to improve or lives, the classification of matter, the understanding of how matter is assembled, and the interactions of matter to produce various types of everyday products. Computer labs and various hands on labs are offered throughout the year.

### Human Anatomy/Advanced Biology

The course offers and in-depth look at the workings of the human body topics that are covered include the levels of cellular organization, the systems that provide support and movement, the systems that are integrate and coordinate the body, the systems that are involved in transport of materials throughout the body, absorptive and excretory systems, and the workings of the reproductive system. Various hands on labs are integrated with the course.

### Chemistry I

Chemistry is the study of matter and the changes is undergoes. The student learns how to collect and analyze data, lab techniques, the structure of the atom, use of the periodic table, properties of gasses and solutions, ionic covalent bonding,

chemical reactions and stoichiometry. The student will spend much class time in the lab.

**Chemistry II**

The student will continue on from Chemistry I. The areas of study are reaction rate, equilibrium, acids and bases, redox reactions, and hydrocarbons. Short and long term research projects of interest projects of interest to the student will be undertaken.

**Physics**

Physics is the study of the basic nature of motion, forces, energy, matter, heat, sound, light, and electricity. The student will have abundant opportunities to discover and test physics concepts in the lab, including some longer-term projects such as stick bridge building and making rockets.

**Advanced Placement Biology**

This course is designed to be the equivalent of a college introductory biology course usually taken by biology majors during their first year. Some AP students, as college freshmen, are permitted to undertake upper-level courses in biology or to register for courses for which biology is a prerequisite. AP Biology aims to provide students with the conceptual framework, factual knowledge, and analytical skill necessary to deal critically with the rapidly changing science of biology. The two main goals of AP Biology are to help students develop a conceptual framework for modern biology and to help students gain an appreciation of science as a process. Essential to this conceptual understanding are the following: a grasp of science as a process rather than as an accumulation of facts; personal experience in scientific inquiry; recognition of unifying themes that integrate the major topics of biology; and application of biological knowledge and critical thinking to environmental and social concerns.

# Social Studies

**American History-9th Grade**

Students are introduced to Reconstruction of the South and the Industrialization of America. America as a World Power developed. The Changing Nation developed by the two World Wars and the Cold War. The students are introduced to the present day foreign policy as developed in accordance with everyday developments in the World.

**World History/World Geography-10th Grade**

Students are introduced to the beginnings of civilizations of the Mediterranean World. The world in transition is introduced through the Byzantine, Kievan Russia, and Mongol empires. The Islamic Empire and the middle ages are studied. The Renaissance, Reformation, and Scientific Revolution are also introduced.

**South Dakota History-11th Grade**

Students are introduced to the history of the development of South Dakota. The students study the climate, people and the geography of South Dakota. Topics include: The Fur Trade, Travelers, Scientists, and Missionaries in South Dakota, the Black Hills Gold Rush, The Great Dakota Boom, Pioneer Days and Ways, Building a New State.

**American Government-12th Grade**

Introduces students to both the origins of American government and the government, as it exists today. Students learn the role American citizens play in their government. Students study Congress as it was conceived over 200 years ago and Congress as it operates today. Students are introduced to the powers and responsibilities of the President. The judicial branch points out the constitution protections of individual rights and liberties.

**Current Events**

This is a study of current events at the local, state, national, and world level. The class will have discussions of the historical background to happenings in the world today. Copies of the Daily Republic are purchased for the students to read. Films of Newsworthy articles are taped and shown; such as Sixty Minutes of CBS or noteworthy presentations on the History Channel.

# Fine Arts/Performing Arts

**High School Choir**
Mixed Chorus
Pre-requisites: None
Grade Level: 9-12
Students will learn basic concepts about music theory and music history. This course is for the beginning singer. Topics covered will include basic concepts on breath support, development of tone, and exercises to help increase the knowledge and skills in the rudiments of music. Songs will be mostly SAB or two-part music. This class will perform for various concerts and large group contest. The students will also have the opportunity to audition and participate in All-State Chorus and contest with solos and ensembles.

**Band**
Students will be expected to perform in all concerts, parades, and pep band performances. Concerts include the winter and spring concerts. Parades include the Burke and South Central Homecoming parades. Pep band performances will be determined by the director and the students will be notified at the beginning of each sport season as to which games they are to play for.

**Art I**

Art 1 introduces students to the methods, techniques, concepts, and materials essential to understanding the visual arts. Students will create numerous projects and experience a wide variety of mediums including drawing, painting,

printmaking, sculpture, and mixed media. Art history lessons are intertwined with projects. Students will participate in class critiques, and complete sketchbook assignments. In addition, students will submit work in art shows and take class field trips. A variety of supplies will be provided: A sketchbook, 3 drawing pencils, kneaded eraser, pink pearl eraser, pencil sharpener, and all other materials needed to create projects.

**Art II**

Art 2 is designed for highly motivated students who are committed to the study and creation of visual art. Students will work in a variety of two-dimensional and three-dimensional media. Students will be working independently most of the time and are responsible for getting the assigned projects done within each quarter. Each project will have in-progress critiques, final critiques, and reflections. The student and teacher will work one-on-one throughout the projects to help develop individual style and creativity. Art history lessons are intertwined with projects. Students will participate in class critiques, and complete sketchbook assignments. In addition, students will submit work in art shows and take class field trips. A variety of supplies will be provided to the student.

**Graphic Design I**

Graphic Design 1 focuses on art and technology. Graphic design students will use design as a way to creatively communicate through words, symbols, and images. This course is designed to give students an understanding of design skills using Adobe Photoshop techniques. Students will use Photoshop to design media for printed products as well as creating fine art. Projects include logo design, drink label, crowd sourcing project, self-portrait, typography light boxes, and movie poster design. Students will also gain foundational knowledge of typography, layout, color theory, image editing, and printing methods.

**Graphic Design II**

Graphic Design 2 builds on the knowledge learned in Graphic Design 1. Students will gain a deeper understanding of layout and design aesthetics as they create more advanced projects. They will continue to use design to communicate through words, symbols, and images. Adobe Photoshop will be the primary program used to create work. Students will design a variety of projects for print media as well as use Photoshop to create fine art.

**Digital Photography**

This class is an introduction to digital photography. The class will push you to be in control of your camera, to develop an artistic style beyond the regular snapshot, and learn to describe and critique work with a photography vocabulary. Students will study basic composition, depth of field, exposure, action, color balance, and other creative aspects of photography. Students will learn about the history of photography and photographs that have shaped our lives today. Students must have access to a SLR digital camera with full manual exposure controls (focus, ISO, aperture, and shutter speed settings).

**Foreign Language**

**Spanish I**
Grades 9-12

This course entails a look into the culture of the 20 Spanish-speaking countries around the world and an introduction into the language as well. We begin with the structure of the language, creating sentences and agreements, and eventually lead into basic conversational abilities, from greeting to weather. Second semester deals with cultural activities and the conjugation of the varieties of verbs in the present tense, plus a plethora of vocabulary. This class primarily teaches the basic of the Spanish language and culture, able to get a student comfortable taking Spanish at the college level.

**Spanish II**
Grades 10-12

This course builds on the content learned in Spanish I plus a higher of conversing. First semester delves into grammar, commands, present participles, and the past tense. Much vocabulary is introduced intermingling with the grammar. Second semester involves several new verb tenses and touches on subjects such as art, immigration, and traveling. By the end of the second semester, students should be able to test out of one or two semesters of basic college Spanish.

**Spanish III**
Grades 11-12

In Spanish III, you will be fine-tuning grammatical errors, speaking with moderate fluency, and listening to native speakers for comprehension. Vocabulary is expanded and the past participle, present perfect, and subjunctive tenses are learned. You will learn about Spanish authors, such as Cervantes, and study realia where Spanish is used here and around the world in the global market. We will explore Aztec and Mayan, and Incan cultures and the impact they had on society then and today.

# Computer Science

## Multimedia

Multimedia is a two semester upper level class. Fist, students learn what multimedia is and the various forms that it comes in, then students will learn about multimedia in the 21st century, covering such subjects as the world of multimedia, the Internet and software issues concerning multimedia. Finally, multimedia the Internet and software issues concerning multimedia. Finally, multimedia components and tools such as text, graphics and animation, audio and video, and modes of delivery are introduced to students. This class relies

heavily on team building and group projects, students study project team roles, the anatomy of a multimedia project, and multimedia web site design. Many of the hands-on projects that are completed in this class are done in small groups. Students also work extensively in the i-Life series to make movies, DVD's and presentations that apply to the content area of their Multimedia Textbooks.

## Web Design

The Internet is an ever-growing media in which information can be published by just about anyone. Web design is a course in which students will learn the skills needed to make basic and intermediate web pages and web sites. This course will help prepare students who are interested in the area of design, graphics, multimedia, and web development. Students will be working with HTML coding and develop web sites for local businesses/organizations.

## Accounting I

Accounting is the language of business and an integral aspect of all business activities. Mastery of fundamental accounting concepts, skills, and competencies is essential to making informed business decisions. Regardless of students' chosen course of study or career path, accounting prepares them to be educated business professionals and informed consumers. Accounting I introduces concepts and principles based on a double entry system of maintaining electronic and manual financial records for a sole proprietorship, partnership and corporation. It includes analyzing business transactions, journalizing, posting, and preparing worksheets and financial statements. Technology will be incorporated as an essential tool where resources are available.

## Accounting II

Students will develop advanced skills that build upon those acquired in Accounting I. Additional accounting skills such as reconciling uncollectible accounts, calculating depreciation on assets, interpreting financial information, and calculating notes and interest will be developed. Computerized accounting will be incorporated as an essential tool where resources are available.

## Business Law

Business Law focuses on an understanding of the court system at the local, state, and national level. Students will gain an understanding of contract law, their rights and responsibilities as citizens, utilization of financial transactions, employment and agency relationships, and the understanding of the regulations governing different types of business organizations.

### Desktop Publishing

Desktop publishing is used today by hundreds of thousands of people worldwide to produce a variety of publications. The use of desktop publishing can improve the effectiveness of the printed communications produced, is faster and less expensive than commercial printing, and helps to express imagination on paper in new ways. A proficiency in desktop publishing can provide students a definite advantage in the job market.
In this class, students will work on the school paper and the yearbook. Students will also learn about photography.

### Personal Finance

A citizen that lives within his or her income has more control over his or her life while expanding choices. Having the knowledge and skills to understand, implement and evaluate various financial practices can help prevent or limit loss.

## Health, Recreation, and Careers

### 9th Health (required for graduation)

This course includes physical, emotional, and mental health and wellness. Along with suicide prevention, nutrition, disease and disorders, fitness for life, and reproductive health; which includes HIV and AIDS?

#### 9th Physical Education (required for graduation)

Activities are designed to develop and strengthen the body, teach basic sport skills, impart knowledge of rules and develop qualities of good sportsmanship. Students will build endurance, flexibility, quickness, and muscular strength through the Presidential Fitness Program.

#### Advanced Physical Education

Advanced Physical Education is an elective course. It is not required for high school graduation. Students in this course are expected to have successfully completed Physical Education I. Exceptions for enrollment may be made in unique circumstances. Upon completion of this course, the student will have become advanced in skills, rules, strategies, and concepts in numerous individual and team sports. The student will become familiar with physical education activities in foreign countries and be able to teach said activities. Finally, the student will identify and progress through personal behaviors that will aid in personal success, communication, and sportsmanship.

Demonstrate knowledge of a variety of advanced motor skills.

Understand and apply advanced movement concepts.

Understand rules and complex strategies for a variety of physical activities.

Identify and describe foreign (outside the US) physical activity games and design lesson to be used in instructing classmates.

Understand appropriate and positive behavior management (social skills) and respect for all individual differences, including gender, ethnicity, and physical ability during physical activity.

Understand and utilize personal behaviors that focus on attitude, effort, motivation, and character.

**Nutrition and Fitness**

**Year long, 1 credit (½ FACS, ½ PE)**

**Grades 9-12**

This class is all about making smart and fun choices; the two can go together. Throughout this year-long class, students will learn the basics of nutrition and fitness, the dos and don'ts, as well as the how's and how-nots. Learning these life skills will not be all theory. Students will learn how plan, prepare, and eat healthy and delicious snacks and meals. Along with the focus on a healthy diet, students will also learn to plan and implement personal fitness programs, based on lifetime activities. This is a hands-on class that is focuses learning on doing. Nutrition and Fitness is a team-taught class pairing two content experts in family and consumer science and physical education. Students will earn a half credit in FACS and a half credit in PE.

**Strength Training**
**Year long, 1 credit**
**Grades 9-12**
In strength training, students will learn the basics of weight lifting. Students will learn how to design strength training programs that are sport specific, as well as the difference between programs designed to gain size, lose weight, or build stamina. In addition to the academic theory behind strength training, students will learn how to design a strength and conditioning program tailor made for them. Students will practice lifting weights throughout the year and will implement their own strength training programs.

# Family and Consumer Science

**Human Development Birth through School Age**
We learn about how children develop from conception through school age as well as issues such as disciplining, literature, and parenting tips. Also have an opportunity to observe "children" at their best.

**Human Development Adolescent through Adulthood**

How can we grow into a successful adult in our community? This class will help students learn to understand how people develop during the adolescent stages as well as throughout adult life. Learn about the needs of these ages while also having an opportunity to observe and interact with adolescence and adults in various settings.

**Dietetics and Nutrition**

In today's society, the career of planning and preparing special diets for various groups is becoming more and more popular. From the athlete to the child to the health conscious person, there are several nutrition and health needs to the addressed. This class is designed to look into the careers related to dietetics while also planning and preparing meals sited to special needs throughout life.

**Relationships in Communities and Families**

We have relationships in all situations. This course covers tips, ticks, and issues that will help the learner become successful in whatever type of relationship he/she might encounter. Enjoy establishing and building relationships with member in the community as well.

**Sociology**

Did you ever wonder why different groups act differently? Sociology is the study of human social life, groups and societies. This class will not only help us learn why we may act different in different groups, but also how other people and groups respond to different groups.

**Psychology**

Learn how and why people act the way they do. This class will study human development and how people think, learn and feel as well as personality types and what makes them sick

# Career and Technical Education

**Intro to Building Trades**
**Prerequisites: None**
**Grade Level 9-12**
Students will learn the basics of the building trades industry through a combination of hands-on experiences and classroom learning activities. Students in this class will work as part of a construction crew to build a house in the city of Burke. Topics to be covered include safety procedures, basic operation of hand and power tools, blueprint reading, electrical wiring applications, framing, and foundation system. Students will use industry standard tools and equipment and will get a taste of what an entry level position in the construction industry is like.

**Residential Construction**
**Prerequisites: Intro to Building Trades, Into to Architecture and Construction, or Shop IV**
**Grade Level: 10-12**

Students will gain an in-depth knowledge of the building trades industry through hands-on experiences and classroom learning activities. Residential Construction students will work with the Intro to Building Trades students on the house construction project. The Residential Construction course will also include some of the more complicated facets of the job, and students will gain a more in-depth knowledge of building codes, design considerations, and job site management. Topics covered will include safety procedures, blueprint reading, electrical wiring applications, framing, foundation systems, and project overview. Students will use industry standard tools and equipment and will utilize a curriculum consistent with construction programs at post-secondary schools.

**Introduction to Engineering Design**

In this course, students use 3-D solid modeling design software to help them design solutions to solve proposed problems. Students will learn how to document their work and communicate solutions to peers and members of the professional community. This course is designed for the $9^{th}$ or $10^{th}$ grade students. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork communication methods, global and human impacts, engineering standards and technical documentation.

**PLTW Biomedical Science** program, Principles of Biomedical Science. From the moment students walk into the classroom, they are immersed in the mysterious death of Anna and asked to investigate, document, and analyze evidence to solve the case. Case-based scenarios like this one span all PLTW Biomedical Science courses. Students explore a range of careers in biomedical sciences as they learn content in the context of real-world, hands-on activities, projects, and problems.

**Principles of Biomedical Science**

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce

students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

**Human Body Systems**

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Maniken®; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases.