

**HILLSBORO HIGH SCHOOL**  
**2019 COURSE DESCRIPTIONS**

**AGRICULTURE**

**EXPLORING THE FUNDAMENTALS OF AGRICULTURE**

OPEN TO GRADES: 9- 10  
PREREQUISITES: None  
LENGTH OF COURSE: 1 year  
CREDIT: 1 credit  
COURSE DESCRIPTION:

Exploring the Fundamentals of Agriculture is a yearlong course that is highly recommended as a prerequisite and foundation for all other agricultural classes. The nature of this course is to provide students with an introduction to careers and the fundamentals of agricultural science and business. Areas to be covered include: agricultural literacy, its importance and career opportunities, plant and soil science, environmental science, horticulture and landscape management, agricultural biotechnology, agricultural science and business tools and equipment, basic principles of and employability in the agricultural/horticultural industry, basic agribusiness principles and skills, developing leadership skills in agriculture, and supervised experience in agriculture/horticulture purposes and procedures. Student learning objectives are defined. Instruction includes not only agriculture education standards but many academic standards are included through the use of “hands-on” problem-solving individual and team activities.

**HORTICULTURAL PRODUCTION & MANAGEMENT**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Exploring the Fundamentals of Agriculture OR permission by teacher  
LENGTH OF COURSE: 1 year  
CREDIT: 1 credit  
COURSE DESCRIPTION:

This advanced course offers instruction in both the greenhouse production and landscape areas of horticulture. Units of study include plant identification, greenhouse management, growing greenhouse crops, landscape design, installation, and maintenance, horticulture mechanics, nursery management, and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising and sales. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

## **BIOLOGICAL SCIENCE APPLICATIONS in AGRICULTURE- PLANT SCIENCE**

OPEN TO GRADES: 10, 11, 12

PREREQUISITES: Exploring the Fundamentals of Agriculture OR permission by teacher

LENGTH OF COURSE: 1 semester/Fall

CREDIT: 0.5 credit

### **COURSE DESCRIPTION:**

This course is designed to reinforce and extend students understanding of science by associating basic scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of plant growth and management in agriculture and the specific biological science concepts that govern management decisions. Topics of study are in the areas of initiating plant growth – germination, plant sensory mechanisms, enzyme action, absorption, and managing plant growth – photosynthesis, respiration, translocation, metabolism, and growth regulation. The course will be valuable preparation for further education and will increase the relevance of science through the applied setting of agriculture by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

## **BIOLOGICAL SCIENCE APPLICATIONS in AGRICULTURE- ANIMAL SCIENCE**

OPEN TO GRADES: 10, 11, 12

PREREQUISITES: Exploring the Fundamentals of Agriculture OR permission by teacher

LENGTH OF COURSE: 1 semester/Spring

CREDIT: 0.5 credit

### **COURSE DESCRIPTION:**

This course is designed to reinforce and extend students understanding of science by associating scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of animal agriculture and specific biological science concepts that govern management decisions in the animal industry. Topics of study are in the areas of growth and development of animals – embryology, ethology, nutrition, immunity systems, and processing animal products – preservation, fermentation, and pasteurization. The course will be valuable preparation for further education and will increase the relevance of science through the applied setting of agriculture by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

## **AGRICULTURE MECHANICS AND TECHNOLOGY A**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Exploring the Fundamentals of agriculture OR permission by teacher  
LENGTH OF COURSE: 1 semester/Fall  
CREDIT: 0.5 credit  
COURSE DESCRIPTION:

This course will concentrate on expanding student's knowledge and experiences with agricultural mechanics technologies utilized in the agricultural industry. Units of instruction included are: design, construction, fabrication, maintenance, welding, electricity/electronics, internal combustion engines, hydraulics, and employability skills. Careers of agricultural construction engineer, electrician, plumber, welder, equipment designer, parts manager, safety inspector, welder, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts. The semester includes units in Electricity, Surveying, and Construction.

## **AGRICULTURE MECHANICS AND TECHNOLOGY B**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Exploring the Fundamentals of agriculture OR permission by teacher  
LENGTH OF COURSE: 1 semester/Spring  
CREDIT: 0.5 credit  
COURSE DESCRIPTION:

This course will concentrate on expanding student's knowledge and experiences with agricultural mechanics technologies utilized in the agricultural industry. Units of instruction included are: design, construction, fabrication, maintenance, welding, electricity/electronics, internal combustion engines, hydraulics, and employability skills. Careers of agricultural construction engineer, electrician, plumber, welder, equipment designer, parts manager, safety inspector, welder, and other related occupations will be examined. Improving workplace and computer skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts. The semester includes units in Welding, Metal Working, Small Engine Repair and Maintenance.

## **SUPERVISED AGRICULTURE EXPERIENCE I**

OPEN TO GRADES:	11, 12
PREREQUISITES:	Exploring the Fundamentals of Agriculture
LENGTH OF COURSE:	1 year
CREDIT:	1 credit
COURSE DESCRIPTION:	

This course is designed to establish knowledge and skills in various agricultural careers. Students will gain credit by establishing a project at their home, at a local business, or at their school usually after normal school hours. Example projects may include, but are not limited to: working at a garden center, raising vegetables/grain/livestock, conducting agriscience experiments in a greenhouse, and training horses at a stable. Students will be required to verify their experiences by keeping written or computerized records including: business, agreements, budgets, inventories, daily activities, hours worked, income and expenses, total earnings, depreciation, and net worth. Instructor supervision will be conducted to the student's home or place of employment. SAE records should be evaluated at least once per month. In addition, SAE lessons are integrated in each agricultural course. SAE participation can lead to fulltime employment, scholarships, and awards through the FFA.

## **SUPERVISED AGRICULTURE EXPERIENCE II**

OPEN TO GRADES:	12
PREREQUISITES:	Exploring the Fundamentals of Agriculture
LENGTH OF COURSE:	1 year
CREDIT:	1 credit
COURSE DESCRIPTION:	

This course is designed to improve and expand knowledge and skills in various agricultural careers. Students will gain credit by continuing a project at their home, at a local business, or at their school usually after normal school hours. Students are encouraged to add additional projects, experiences, scope, and growth involving managerial and decision making skills. Students will be required to verify their experiences by keeping written or computerized records including: business agreements, budgets, inventories, daily activities, hours worked, income and expenses, total earnings, depreciation, and net worth. Instructor supervision will be conducted to the student's home or place of employment. SAE records should be evaluated at least once per month. In addition, SAE lessons are integrated into each agricultural course. SAE participation can lead to fulltime employment, scholarships, and awards through the FFA.

## **BUILDING TRADES**

OPEN TO GRADES: 11, 12  
LENGTH OF COURSE: 1 Year. May be taken 2 years  
CREDIT: 3 Credits/Elective  
BDM102 Introduction to Construction Occupation (LLCC, 4.0 credit hrs)  
BDM106 Basic Carpentry I (LLCC, 4.0 credit hrs)

### **COURSE DESCRIPTION:**

Building Trades is a 2 year program covering basic and some advanced building construction. There is classroom instruction and lab instruction. Upon completion of the course, the student should be proficient in many of the building construction trades and qualified for an entry level job in the trades. All students are required to wear safety glasses, boots and proper clothing. Instructor will provide instructions on other needed material (tools, hats, gloves, etc..)

### **LLCC BDM 102**

This course covers the basic safety principles fundamental to construction. Topics include the correct use of hand and power tools, emergency and first aid procedures and avoiding hazardous conditions. Introduction to basic construction math, OSHA regulations and code compliance are also studied.

### **LLCC BDM 106**

This course is the first of two carpentry classes that prepares students to perform basic rough carpentry techniques. Topics include foundation preparation, wall layout/framing and exterior finish. Knowledge and skill are developed in the areas of construction materials, print reading, design and safe operation of power tools.

## **BUSINESS DEPARTMENT**

### **ACCOUNTING I**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective

### **COURSE DESCRIPTION:**

Accounting I is designed to give the student a thorough knowledge of basic accounting principles for personal use, entry-level accounting positions, and further study in accounting.

## **ACCOUNTING II**

OPEN TO GRADES: 11, 12  
PREREQUISITES: "C" or better in Accounting I  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Accounting II will briefly review the concepts covered in Accounting I before continuing on with new concepts and techniques that a merchandise business would use in financial record-keeping. Additional ideas will include depreciation of assets, covering the finances associated with business partnerships, and factoring internet sales into a business's revenue stream. Additional programs will be used to create individual accounting programs.

## **BUSINESS CONCEPTS AND TECHNOLOGY**

OPEN TO GRADES: 9, 10, 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Business Concepts and Technology is an intermediate to advanced level course using the Microsoft Office Suite. This class provides skills needed in high school, college, and the work environment. Hands on experience utilizing formatting skills in word processing, spreadsheet, database, presentation software, e-mail, Internet and integration concepts will be the focus of this course. In addition, students will use Google Docs to collaborate on projects and Cloud to store information. Second semester, students focus on producing professional business documents for publication and learning the basics of coding to enhance planning, organizing, and problem solving techniques. The course is a prerequisite for most classes offered in the Business Education Department.

## **CONSUMER EDUCATION**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit (Meets state graduation requirement)  
COURSE DESCRIPTION:

This course meets the graduation requirements for Consumer Economics. This is a practical application course and is designed to provide individualized experiences which will lead to wise consumer practices and rational decision making skills. In addition, students will study financial literacy including: banking, budgeting, saving, investing, transportation, housing, higher education choices, and the wise use of credit.

## **INFORMATION PROCESSING A**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Business Concepts and Technology  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTIONS:

Information Processing A is designed to teach students advanced level concepts and features in Word and PowerPoint. In Word, students will work on collaboration of documents, creating full reference documents (with table of contents and index pages) and integrate advanced online features in the program. In PowerPoint, student will create slide show templates, utilize various other forms of PowerPoint outside of the slideshow, enhance presentations with advanced graphical elements and content from outside sources, and create photo albums to be used for video presentations. This class is designed for students with an advanced understanding of the Word and PowerPoint programs.

## **INFORMATION PROCESSING B**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Business Concepts and Technology  
LENGTH OF COURSE: 1 semester  
CREDIT: 0.5 credit/elective  
COURSE DESCRIPTION:

Information Processing B will explore the more advanced level of Excel and Access. In Excel, students will look at PivotTable and PivotChart reports, advanced formulas and problem solving functions, using Macros, and collaborative features and spreadsheets. In Access, students will look at Macros, advanced layouts, administration of database, using SQL, and advanced design features of a database. This class is designed for students with an advanced understanding of the Excel and Access programs.

## **MARKETING**

OPEN TO GRADES: 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: 1 semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This course is designed to provide students with an introduction into the business world and will greatly benefit any student looking to pursue further education or a career in business. Topics that will be covered range from economics, management, production, and advertising. The class will

dedicate time for healthy discussion on how marketing can be integrated in many facets of the world.

### **A.P. COMPUTER SCIENCE PRINCIPLES**

OPEN TO GRADES: 11, 12

PREREQUISITES: C+ or better in Business Concepts and Technology, successfully complete or successfully enrolled in Algebra II, and instructor permission.

LENGTH OF COURSE: 1 year

CREDIT: 1.0/Elective

#### **COURSE DESCRIPTION:**

AP Computer Science Principles introduces students to the foundational concepts of the field and challenges them to explore how computing and technology can impact the world. Whether it's 3-D animation, engineering, music, app development, medicine, visual design, robotics, or political analysis, computer science is the engine that powers the technology, productivity, and innovation that drive the world. Computer science experience has become an imperative for today's students and the workforce of tomorrow. The AP Program designed AP Computer Science Principles with the goal of creating leaders in computer science fields and attracting and engaging those who are traditionally underrepresented with essential computing tools and multidisciplinary opportunities. AP Computer Science Principles was created with significant support from the National Science Foundation. The rigorous process of development and testing has yielded a course that not only reflects the latest scholarship in the field, but provides students with a relevant and engaging learning experience.

### **CREATING ENTREPRENEURIAL OPPORTUNITIES (CEO)**

OPEN TO GRADES: 12

PREREQUISITES: Students are required to compete for entry into the CEO Program. Application and interview will be required for each interested student.

LENGTH OF COURSE: 1 year

CREDIT: 2.0/Elective

#### **COURSE DESCRIPTION:**

Business concepts learned through the experiential CEO class are critical; the 21<sup>st</sup> century skills of problem solving, teamwork, self-motivation, responsibility, higher order thinking, communication



and inquiry are at the heart of student development throughout the course. Students will meet at a variety of county-wide business locations throughout the year and meet from 7:50 to 9:20 a.m..

## **HEALTH CAREERS - CERTIFIED NURSE ASSISTANT PROGRAM**

### **BASIC NURSE ASSISTANT PROGRAM**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Lincoln Land Community College Reading Comprehension Exam, be in good academic standing, have good attendance.  
LENGTH OF COURSE: 1 Year  
CREDIT: 2 Hours/Elective  
LLCC Dual Credit (6.5 credit hours)

#### **COURSE DESCRIPTION:**

This CNA program is provided by Hillsboro High School in affiliation with Lincoln Land Community College and approved by the Department of Public Health. This course is specifically designed to train students to be Certified Nurse Assistants. Upon successful completion of the course, the student receives a certificate making him/her eligible to be employed in home health agencies, nursing homes, and hospitals. In order to complete the program, students must pass a competency exam required by state and federal guidelines. The student will be given 6.5 credit hours of Lincoln Land credit for successful completion of this course.

LLCC Course Information: NAS 101 Basic Nurse Assistant (6.5 credit hours)

## **ENGLISH DEPARTMENT**

### **ENGLISH I**

OPEN TO GRADES: 9  
PREREQUISITES: English courses should be taken in sequence.  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required

#### **COURSE DESCRIPTION:**

Freshman English encompasses reading, writing, listening, speaking, vocabulary, and grammar with various assignments, activities, essays, and assessments to reinforce these components. The curriculum involves short stories, novels, poetry, drama, and mythology, with emphasis on vocabulary development, literary analysis, and reading strategies to improve literacy. A few of the classics include Edgar Allan Poe's *The Cask of Amontillado* and *The Raven*, William Shakespeare's

*Romeo & Juliet*, Homer's *Odyssey*, Sir Arthur Conan Doyle's *The Red Headed League*, Daphne du Maurier's *The Birds*, and Harper Lee's *To Kill A Mockingbird*.

### **ADVANCED ENGLISH I**

OPEN TO GRADES: 9  
PREREQUISITES: Recommended by 8th grade Language Arts teachers, high standardized test scores  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

Advanced Freshmen English encompasses all of the above elements plus additional selections and activities added to offer challenges and a more in depth study of the world around us in connection to not only the English language, but also our heritage. For instance, an additional unit includes renowned author Elie Wiesel's *Night*, and a powerful look at one man's journey and survival of the Holocaust. In addition to added materials and activities, Advanced English I students will be held to higher expectations to foster and support the demands of a collegiate future.

### **INTERPERSONAL COMMUNICATION**

OPEN TO GRADES: 9 and 10  
PREREQUISITES: none  
LENGTH OF COURSE: 1 semester  
CREDIT: 0.5 Credit/elective

#### **COURSE DESCRIPTION:**

Students will perform a variety of activities in order to enhance their well-being and the way they communicate with the world around them. Topics will include the elements of interpersonal communication, identity and self, individual and intercultural motivations, verbal messages, listening, nonverbal messages and perception and maintaining relationships.

## **ENGLISH II**

OPEN TO GRADES: 10  
PREREQUISITES: English I  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

Students will read literature from a variety of sources and write for a variety of purposes and audience. Journal writing and essays are stressed. Literary terms and analysis of different genres of literature are a focus of this class.

## **ADVANCED ENGLISH II**

OPEN TO GRADES: 10  
PREREQUISITES: English I and approval of instructor  
LENGTH OF COURSE: 1 YEAR  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

Students will develop their reading and writing skills through an intense curriculum in which writing assignments, projects and critical thinking activities are emphasized. Students will also regularly participate in oral presentations, outside reading, and group discussions. Students should be prepared to hone their writing skills through composing numerous essays, and one 1500 word research project. Students will be expected to be self-motivated and be responsible for completing independent reading and writing.

## **ENGLISH III**

OPEN TO GRADES: 11  
PREREQUISITES: English II  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

American Literature is a survey course covering samplings of the major writings from pre-colonial America to contemporary times. Students are expected to read, discuss, and write about assigned poems, essays, stories and novels. Also, students will be expected to demonstrate reading comprehension and critical thinking skills.

## **ENGLISH 2250**

OPEN TO GRADES: 11  
PREREQUISITES: Advance English II or permission of instructor  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective (Weighted Grade Course)  
SLU 1818 PROGRAM, Dual Credit (3.0 credit hours)

### **COURSE DESCRIPTION:**

### **COURSE DESCRIPTION:**

This class is an introduction to the novel as a literary genre and an exploration of other works of American Literature. Our learning outcomes are to foster appreciation of the novel for both its entertainment and literary value by means of

- Determining key ideas and details that develop theme
- Analyzing text and structure and their function in supporting/conveying theme and tone
- Integrating knowledge and ideas via comparison among genres, texts, and media formats
- Assessing the relationship between an author's life experiences and writing
- Applying various methods of literary analysis i.e. New Criticism, psychoanalysis, reader response, deconstruction and other theories
- Making personal connections with textual themes
- Developing and applying literary terms
- Writing analytical arguments to support claims about texts using valid reasoning and relevant and sufficient evidence

SLU 1818 PROGRAM (Dual Credit): ENGL 2250 - Conflict, Social Justice and Literature

## **ENGLISH 1500**

OPEN TO GRADES: 12  
PREREQUISITES: English 2250  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective (Weighted Grade Course)  
SLU 1818 Program, Dual Credit (3.0 credit hours)

### **COURSE DESCRIPTION:**

The primary goal of English 1500A is to develop students' ability to recognize and employ the rhetorical techniques that provide the basis for academic writing. In this course, students will improve their ability to read and to form arguments about different types of texts. They will come to better understand the relationship between reading, writing, and critical thinking and be able to

produce expository essays containing a concise thesis supported by well-reasoned arguments and sufficient, relevant textual evidence. They will be prepared to enter English 102 with a strong repertoire of analytical strategies and an understanding of the standards of academic discourse which will serve as the foundation for further enhancement of both argumentative and research skills.

SLU 1818 Program (Dual Credit): ENGL 1500 - The Process of Composition (3.0 Credit Hours)

## **ENGLISH 1900**

OPEN TO GRADES: 12  
PREREQUISITES: ENGLISH 1500  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective (Weighted Grade Course)  
SLU 1818 Program, Dual Credit (3.0 credit hours)

### **COURSE DESCRIPTION:**

English 1900B is designed to enhance and deepen the critical skills of argumentation and academic writing introduced in English 1500A. Students continue to write essays that demonstrate their ability to analyze and evaluate the writing of others and to integrate key elements of those ideas as support in an original analytical composition. The course reinforces student experience with the conventions of standard written English and MLA documentation. The course expands student ability to conduct research and present research findings in an ethical, accurate, logical, and critical manner.

SLU 1818 Program (Dual Credit): ENGL 1900 – Adv. Strategies of Rhetoric and Research (3.0 Credit Hours)

## **ENGLISH IV**

OPEN TO GRADES: 12  
PREREQUISITES: English III  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required

### **COURSE DESCRIPTION:**

English IV comprises two elements: composition coursework and a study of British Literature. The writing-intensive composition coursework focuses on development of organization, voice, fluency, conventions of written English, and the research paper process. Literature selections include the following: *Beowulf*, *The Canterbury Tales*, and *Macbeth*.

## **READER RESPONSE**

OPEN TO GRADES: 12  
PREREQUISITES: English III  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

Students will read several contemporary novels in order to increase their reading comprehension and fluency expand vocabulary knowledge and practice critical thinking skills. Students will have the opportunity to respond to the various assigned readings through traditional and non-traditional assessments.

## **ORAL COMMUNICATIONS**

OPEN TO GRADES: 12  
PREREQUISITES: English III  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

Students will perform a variety of activities in order to enhance their verbal and nonverbal communication. The following units will be covered: Listening and nonverbal communication, Children's literature, narrative speaking, interviewing, group discussion, persuasive speaking, demonstrative speaking and debate.

## **FAMILY AND CONSUMER SCIENCES**

### **ORIENTATION TO FAMILY & CONSUMER SCIENCES A**

OPEN TO GRADES: 9, 10  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Semester/ Fall  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This course introduces students to the basic areas of Family & Consumer Sciences programs. Learning experiences assist students in understanding themselves, their roles and related careers in each of the basic areas of Family & Consumer Sciences. Foundational skills built in personal growth, management and relationship skills, and fashion and design including a sewing unit.

### **ORIENTATION TO FAMILY & CONSUMER SCIENCES B**

OPEN TO GRADES: 9, 10  
PREREQUISITES: None

LENGTH OF COURSE: 1 Semester/ Spring  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This course introduces students to the basic areas of Family & Consumer Sciences programs. Learning experiences assist students in understanding themselves, their roles and related careers in each of the basic areas of Family & Consumer Sciences. Foundational skills built in health and wellness, food preparation, consumerism, caregiving, and housing and design.

### **CULINARY ARTS & WELLNESS**

OPEN TO GRADES: 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This course promotes knowledge and understanding of basic food principles and applied nutrition and wellness strategies for all people of all ages. The curriculum addresses food service and preparation management using the decision making process; meeting basic needs by applying nutrition concepts; meeting health and safety needs in planning, preparing and serving nutritional meals; maximizing resources when planning, preparing and serving food; promoting hospitality and food etiquette practices; and analyzing individual and family nutritional needs. Career information related to the foods industry is included.

### **NUTRITIONAL & CULINARY ARTS II**

OPEN TO GRADES: 11, 12  
PREREQUISITES: **CULINARY ARTS & WELLNESS**  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

In Culinary Arts II, students will apply the principles of the hospitality industry, including nutrition, culinary and entrepreneurial opportunities. The course curriculum includes the following topics: food selection, purchase and preparation, conservation of food resources, dietary needs and trends, international cuisine, food safety and sanitation, and career exploration in the food service industry. Earn the Illinois Food Handlers Certificate as part of the class– an industry recognized certification along with the option of the ServSafe Allergen Certification.

## **CHILD CARE/TEACHING INTERNSHIP**

OPEN TO GRADES:	11, 12
PREREQUISITES:	Completion of Child Development class highly recommended. Application and/or interview required for enrollment.
LENGTH OF COURSE:	1 Year
CREDIT:	2 Credit/Elective
COURSE DESCRIPTION:	

This two-hour course is designed to provide students interested in a career in child and day care operations or in education with information and practical experiences needed for the development of job-related competencies. Students will be provided laboratory experiences either in a school-based or extended campus facility. Students will be expected to develop appropriate skills in program development and in assisting with children and/or adults with activities. Classroom study will include child development principles and the skills needed to successfully guide children while keeping them healthy and safe. The program will combine a minimum of 120 classroom hours of instruction with a possible 480 hours of direct, hands-on experience working with children at a day care facility culminating with a chance to earn the Child Development Associate Credentials. Earn CPR, AED, First Aid (Infant, Child and Adult) Certification, DCFS Mandated Reporter, SIDS, SBS and ECE Level I industry recognized certification. Application and/or interview required for enrollment.

## **FINE ARTS**

### **ART SKILLS – A/B**

OPEN TO GRADES:	9-12
PREREQUISITES:	None
LENGTH OF COURSE:	1 Semester/A-Fall, B-Spring
CREDIT:	0.5 Credit/Elective
COURSE DESCRIPTION:	

Art Skills is a basic art course acquainting students with the many facets of art. Beginning with the elements of art, students will learn the basics. From this point, work is created in various media: graphite, colored pencils, paint, charcoal, chalk, pen and ink, and watercolor. The fundamentals of drawing and painting will be introduced including still life and figure drawing/painting. Three-dimensional work will be explored in the mediums of clay, plaster, and/or paper-mache. A sketchbook with weekly assignments is required. There will also be weekly discussions and writing prompts pertaining to art history. **Students are encouraged to enroll in Art Skills A & B for the entire year. There will be no repetition of projects between the two classes.**



## **CERAMICS**

OPEN TO GRADES: 10-12  
PREREQUISITES: Art Skills A / B  
LENGTH OF CLASS: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

Learn design and skills needed to produce pottery and sculpture using a variety of hand-building techniques. General knowledge about ceramic artists, techniques, art careers, and art criticism will be included. The students will create a sketchbook to use for project sketches and class notes. There will also be weekly discussions and writing prompts pertaining to art history of Ceramics.

## **ADVANCED CERAMICS**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Art Skills A / B, Ceramics, and Permission of Instructor  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

Students will build on the knowledge and skills they learned in Ceramics. They will elaborate on skills needed to produce pottery and sculpture using a variety of hand-building techniques. General knowledge about ceramic artists, techniques, art careers, and art criticism will be included. The students will create a sketchbook to use for projects sketches and class notes. There will also be weekly discussions and writing prompts pertaining to art history of Ceramics.

## **MIXED MEDIA ARTS**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Art Skills A/B  
LENGTH OF COURSE: 1 Semester/Fall  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This course will offer in-depth exploration of techniques and new ways to see, use, and interpret multiple materials. Students will create multi-directional compositions with a variety of materials, paint, images, found objects, and ink painting. Techniques will include collage, monotype printing, drawing, painting, mixing, assemblage, cutting, and pasting, etc. This course is designed to give students a wide variety of art making experiences and allows students to continue to explore various visual art forms and techniques through the elements and principals of art and design.

Students will produce original artworks and learn skills and techniques associated with a variety of art media. Students will develop technical skills and personal style. Both traditional and non-traditional approaches are taught. Many projects may include ordinary objects that can be transformed into creative works of art.

### **CREATIVE DESIGN**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Art Skills A/B  
LENGTH OF COURSE: 1 Semester/Spring  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This course will explore the various careers in design. Projects will include working with drawing, painting, mixed media, assemblage, clay, and sculpture. A sketchbook with weekly assignments is required. There will also be weekly discussions and writing prompts pertaining to art history.

### **ADVANCED ART – A/B**

OPEN TO GRADES: 11, 12  
PREREQUISITES: 2 semesters of Art including a C+ or higher in Art Skills A/B  
LENGTH OF COURSE: 1 Semester/A-Fall, B-Spring  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

A career oriented class to develop a portfolio for art school and job applications. Students will develop skills in composition with an advanced approach to working with a variety of Medias. This includes: graphite, colored pencils, acrylic paint, charcoal, chalk, oil pastels, pen and ink, and watercolor. Mixed media drawing and printmaking will also be explored. A sketchbook with weekly assignments is required. There will also be weekly discussions and writing prompts pertaining to art history. There will be no repetition of projects between the two classes.

### **PHOTOGRAPHY**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Art Skills A/B & 1 other semester of Art or permission of instructor  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This general course provides an opportunity to explore various aspects of photography. Skills and knowledge will be developed in the following areas of photography: digital camera techniques, photography history, composition, and photo design and production using Photoshop software.

Projects will include photographing various subjects: nature, animals, landscape, portrait, story, architecture, action, and more. Students will experience the use of B & W, color print, and digital film for projects. Students are required to have a 6.0 megapixel digital camera and a 512 MB jump drive for the class. There will be weekly discussions and writing prompts pertaining to art history of photography.

### **ADVANCED PHOTOGRAPHY**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Photography & permission of instructor  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

Students will build on the knowledge and skills they learned in Photography. This advanced course continues to develop the exploration of the various aspects of photography. Skills and knowledge will be developed in the following areas of photography: digital camera techniques, photography history, composition, photo design and production using Photoshop software. Projects will include photographing various subjects: nature, animals, landscape, portrait, story, architecture, action, and more. Students will experience the use of Black & White, color print, and digital film for projects. Students are required to have a 6.0 megapixel digital camera and a 512 MB jump drive for the class. There will be weekly discussions and writing prompts pertaining to art history of photography.

### **CHAMBER SINGERS**

OPEN TO GRADES: 9, 10, 11, 12 (Selective)  
PREQUITISTES: Prior participation in either junior high or high school choir, audition required  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

The Hillsboro High School Chamber Singers is a highly select performing choir of twenty-four to thirty-two students (depending on full enrollment in the high school choral program). Students are selected through a competitive audition and are chosen for the ensemble based on their audition score. In this class, students are required to participate in numerous performances as outlined by the director. Through performance, students gain experience and appreciation for proper vocal techniques, concert etiquette, and different genres of vocal music. Choir students will attend functions outside of school that provide opportunities to grow as musicians, such as the Millikin University Vocal Festival, and IHSA Solo and Ensemble Contest. As a requirement, students will audition for the ILMEA District and All-State ensembles (unless there is an unavoidable scheduling conflict with either the audition or festival).

Students will be required to participate in the annual musical production, whether it be in the cast, on the stage crew, student directing, or other needs as outlined by the director.

Class time will consist of vocal warm-ups, sight singing exercises, and rehearsal of music. Chamber Singers students will also study the symbols, terminology and notation of music. Additional classroom assignments will involve journaling and concert critiques. Students will develop an appreciation and understanding of the art.

Students will be required to have and keep a pencil for all rehearsals. There will also be a \$20.00 class fee that will apply to the cleaning of and maintenance of performance dresses and tuxedos.

## **CONCERT CHOIR**

OPEN TO GRADES: 9, 10, 11, 12 (Selective)

PREQUITISTES: Audition required

LENGTH OF COURSE: 1 Year

CREDIT: 1 Credit/Elective

### **COURSE DESCRIPTION:**

The Hillsboro High School Concert Choir is a performance group selected through audition. In this class, students are required to participate in scheduled performances as outlined by the director. The class will be capped at eighty-five students. Through performance, students gain experience and appreciation for proper vocal techniques, concert etiquette, and different genres of vocal music. Choir students will attend functions outside of school that provide opportunities to grow as musicians, such as ILMEA District and All-State choir, the Millikin University Vocal Festival, and IHSA Solo and Ensemble Contest.

Students will be required to participate in the annual musical production, whether it be in the cast, on the stage crew, student directing, or other needs as outlined by the director.

Class time will consist of vocal warm-ups, sight singing exercises, and rehearsal of music. Concert Choir students will also study the symbols, terminology and notation of music. Additional classroom assignments will involve journaling and concert critiques. Students will develop an appreciation and understanding of the art.

## **BAND**

OPEN TO GRADES: 9, 10, 11, 12

PREREQUISITES: Elementary/junior high instrumental music instruction OR consent of instructor.

LENGTH OF COURSE: 1 Year

CREDIT: 1 Credit/Elective

### **COURSE DESCRIPTION:**

The first quarter consists of marching band activities. During this time, techniques in music execution and marching will be covered in both written theory and performance (both football halftime show and parade). The second and third quarters consist of pep band and concert band literature study and performance to develop musical technique and an appreciation for various

types of instrumental band music. A Christmas concert and basketball pep band performances will be presented. Fourth quarter consists of concert music, IHSA solo, ensemble and organizational contests, spring concert and graduation performance. Sectionals will be held as scheduled. Attendance at band performances is required. Some weekend and evening performances are necessary.

### **PERCUSSION ENSEMBLE**

OPEN TO GRADES: 9, 10, 11, 12  
PREREQUISITES: Elementary/junior high instrumental music instruction OR consent of instructor.  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Students in Percussion Ensemble will learn:

- proper technique for playing both battery and mallet percussion instruments.
- music theory as it relates to the performance of percussion instruments.
- Marching band music and drill and perform as part of the Hillsboro H.S. Marching Band
- Percussion ensemble literature and perform as part of the Hillsboro H.S. Percussion Ensemble at the Winter Concert, Solo and Ensemble, and the Spring Concert

Select Students in Percussion Ensemble will prepare concert band literature and perform as part of the Hillsboro H.S. Concert Band at the Winter Concert, ILMEA Large Group Festival, and the Spring Concert.

### **HILTOP**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Permission of the instructor  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit  
COURSE DESCRIPTION:

The Hiltop course exposes students to a variety of real-life experiences that will help prepare them for the working world beyond high school. Students are required to establish a partnership with the community as they market our yearbook as an advertising product for local businesses. Students are required to manage money and to work within a strict budget. The production rate for Hillsboro High School's yearbooks is approximately \$24,000.00 per year and continues to grow. Hiltop also requires students to set short term and long term goals, and to make sure these goals are met within the confines of our three deadlines. Teamwork is essential as these students must communicate and compromise with each other on a daily basis. Students also learn about successful photography, journalism, caption writing, use of color, and use of graphics and design. Yearbook has many different skills to offer students, and it is a fun way to incorporate creativity into one's high school experience.

## **FOREIGN LANGUAGE**

### **SPANISH I**

OPEN TO GRADES: 9, 10, 11  
PREREQUISITES: Teacher recommendation  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Oral and written skills are both introduced with emphasis on pronunciation and grammar during this course. Spanish I students learn every day, meaningful expressions, useful vocabulary, and enough grammar to be able to understand and participate in short conversation.

### **SPANISH II**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Spanish I and teacher recommendation  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Spanish II students continue to use and develop oral and written skills. More verb tenses are presented throughout the year with increased vocabulary study. Oral work is stressed with students presenting conversations for the class.

### **SPANISH III**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Spanish II and teacher recommendation  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Oral and written skills are further developed with continued emphasis on grammar skills and increased vocabulary. The student will read and translate informational texts and fictional works in Spanish. Oral conversation is an important element of the course. The class is conducted in Spanish with students expected to participate in the language.

### **SPANISH IV**

OPEN TO GRADES: 12  
PREREQUISITES: Spanish III and recommendation of instructor  
LENGTH OF COURSE: 1 Year

CREDIT: 1 Credit/Elective (Weighted course)

COURSE DESCRIPTION:

Oral and written skills are further developed with emphasis on grammatical structure. Vocabulary is increased through a variety of translations. The students will read and translate short stories in Spanish. The culture and civilization of Spanish-speaking countries is studied during the translations. The class is conducted in Spanish and students are expected to participate in the language.

## MATHEMATICS DEPARTMENT

### ALGEBRA I

OPEN TO GRADES: 9, 10  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

This is a traditional Algebra I course that covers basic operations with algebraic equations and polynomials, factoring polynomials, simplifying algebraic fractions, solving ratios, proportions, graphing inequalities and solving linear systems.

### GEOMETRY

OPEN TO GRADES: 9,10,11  
PREREQUISITES: Algebra I  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

Geometry is the second year course in math for high school students. This course develops a structured mathematical system employing both deductive and inductive reasoning. It includes plane, spatial, coordinate, and transformational geometry. Algebraic methods are used to solve problems involving geometric principles. Geometry is meant to lead students to an understanding that reasoning and proof are fundamental aspects of mathematics and something that sets it apart from the other sciences.

### ALGEBRA II

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: Algebra I, Geometry  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

This course is designed to prepare students for careers which need a more thorough understanding of mathematics and to serve as a prerequisite for more advanced math and science classes. This course will include these topics: basic concepts of Algebra, inequalities, linear equations and functions, products and factors of polynomials, rational expressions, irrational and complex numbers, quadratic equations and functions, variation and polynomial equations, analytic geometry, exponential and logarithmic functions, sequences and series, triangular trigonometry, statistics and probability, matrices and determinants.

### **STATISTICS**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Algebra II  
LENGTH OF COURSE: 1 Semester/Fall  
CREDIT: 0.5 Credit  
COURSE DESCRIPTION:

This semester long course will focus on frequency distributions, graphs, data description, and the normal distribution of data. These topics have applications to business, education, medicine, law, sports, and travel.

### **TRIGONOMETRY**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Algebra II  
LENGTH OF COURSE: 1 Semester/Spring  
CREDIT: 0.5 Credit  
COURSE DESCRIPTION:

This semester long course will focus on the unit circle, right triangle trigonometry, trigonometric functions, graphs, identities, vectors, complex numbers, exponential functions, logarithmic functions, and topics in analytic geometry. These topics have applications in physics, economics, machining, wave motion, indirect measurement, and navigation.

### **PRE-CALCULUS**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Achieving a "C" or better in Algebra II is advised  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

Pre-Calculus is designed to prepare juniors for Calculus and to serve as an exit level advanced math course for those students who need a solid math basis for college courses in engineering, science, pre-



med, nursing and business. Topics covered include: Coordinate geometry, advanced graphing, polynomials, inequalities and functions; review and extension of trigonometry; exponents and logarithms; conic sections; polar coordinates and complex numbers; vectors and determinants; finite and infinite sequences and series; probability and statistics.

## **CALCULUS**

OPEN TO GRADES: 12  
PREREQUISITES: Pre-Calculus  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit (Weighted class)  
COURSE DESCRIPTION:

Calculus is a capstone course that rests upon classes that began in elementary school through high school pre-calculus. This course provides the mathematical background for those students pursuing careers in science, engineering, business and medicine. Topics include:

Functions, limits and continuity; derivatives, relative maxima and minima, Definite and indefinite integrals, Improper integrals; areas, volumes surface areas; miscellaneous applications of derivatives and integrals in science, business and engineering.

## **SAFETY, HEALTH AND PHYSICAL EDUCATION**

### **CLASSROOM DRIVER TRAINING**

OPEN TO GRADES: 9, 10  
PREREQUISITES: Placement based on age. Must have passed 8 academic credits in the previous 2 semesters. Assignments are made on the basis of age and grade eligibility.  
LENGTH OF COURSE: 9 weeks  
CREDIT: None  
COURSE DESCRIPTION:

Classroom Driver Training is the first course students will complete in driver's training. They will learn the fundamentals of driving, a basic understanding of the mechanics of the automobile and the development of defensive driving attitudes. Classroom Driver Training consists of at least thirty hours of classroom training that is required by Illinois law. In order to meet the time requirements students may **not** miss more than 5 days of class for **any** reason. The students will also receive their instruction

permits during CDT. Receiving their instruction permit will involve passing the written state driving test and passing a vision screening. There is a \$150 fee for this class that covers the cost of classroom and practice driver's training. The fee covers the cost of leasing and maintaining a vehicle for driver education. In addition you must pay a \$20 fee to the Illinois Secretary of State and provide the proper identification.

### **PRACTICE DRIVER TRAINING**

OPEN TO GRADES: 10, 11, 12

PREREQUISITES: Successful completion of CDT. Must have passed 8 academic credits in the previous 2 semesters. Assignments are made on the basis of age and grade eligibility.

LENGTH OF COURSE: 9 weeks

CREDIT: None

#### **COURSE DESCRIPTION:**

PDT consists of at least six hours of driving practice and twelve hours of observation time. Students are not given a set number of days that they meet Illinois state law. Students will be graded on the final road test administered at the end of the nine weeks. The road test is the final and is pass/fail. We are involved with the Cooperative Driver Testing Program which is a state program. It rewards students who have earned an A or B in both CDT and PDT with not having to duplicate the road test at the driver services facility. Before obtaining their license a student must have passed the driver training courses, be 16 years of age, have driven 50 hours with an eligible driver and had their instructional permit for nine months.

## **HEALTH**

OPEN TO GRADES: 9  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Required  
COURSE DESCRIPTION:

Health is a comprehensive, modern approach to health education. It will help the student to understand health concepts through direct and simple explanations. This approach helps students apply health knowledge in making intelligent decisions about their health and encourages them to achieve and maintain a high level of physical, mental, and social well-being.

## **PHYSICAL EDUCATION**

OPEN TO GRADES: 9, 10, 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: Every semester of HHS enrollment  
CREDIT: 1 Credit/year Required  
COURSE DESCRIPTION:

This course has several goals: To familiarize students with a variety of sports activities; to develop basic skills needed to participate in these sports activities; to encourage positive attitudes and a sense of responsibility towards peers and self; to allow further skill development and concentrated activity in sports areas used for lifetime recreation; and to emphasize fitness for a positive health condition. Written exams will follow each activity.

## **"0" HOUR WEIGHT TRAINING A/B**

OPEN TO GRADES: 10, 11, 12  
PREREQUISITES: None  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective (May substitute for physical education credit)  
COURSE DESCRIPTION:

This 1<sup>ST</sup> hour class is taught for those interested in physical conditioning. It is conducted in the weight room and enrollment is limited.

### **"0" HOUR FUSION FITNESS**

OPEN TO GRADES:	11, 12
PREREQUISITES:	Student must be 16 and will pay a fee to participate unless they hold a Fusion membership.
LENGTH OF COURSE:	1 Semester
CREDIT:	0.5 Credit/Elective (May substitute for physical education credit)
COURSE DESCRIPTION:	

This class meets at Fusion Fitness Center 5 days a week at 7:00 am. There is limited enrollment. The goal of the class is for students to appreciate the importance of setting personal fitness goals and maintaining a lifestyle that includes a quality fitness routine. Students are expected to use all areas of Fusion and will be divided into groups to meet in specific fitness areas daily. Students are expected to work out for a minimum of 30 minutes daily. The students will do a fitness assessment periodically. Students are graded on attendance, attitude and level of participation. There is a fitness related final exam.

## **SCIENCE DEPARTMENT**

### **BIOLOGY**

OPEN TO GRADES:	9
PREREQUISITES:	none
LENGTH OF COURSE:	1 Year
CREDIT:	1 Credit/Required
COURSE DESCRIPTION:	

This is an introductory life sciences class. This course will cover basic biological concepts and information. Some lab activities are offered and students are required to wear safety glasses.

### **HONORS BIOLOGY**

OPEN TO GRADES:	9
PREREQUISITES:	8 <sup>th</sup> grade teacher recommendation
LENGTH OF COURSE:	1 Year
CREDIT:	1 Credit/Required
COURSE DESCRIPTION:	

This class will cover not only basic biological concepts and information but will include many laboratory situations and scientific reasoning on various topics. This course is designed for those students who are college bound or want to pursue more advanced science classes in their junior or senior year.

## **WILDLIFE MANAGEMENT AND CONSERVATION**

OPEN TO GRADES: 9 and 10  
PREREQUISITES: none  
LENGTH OF COURSE: 1 semester  
CREDIT: 0.5 Credit/elective  
COURSE DESCRIPTION:

This course will discuss wildlife management and conservation topics, skills and careers. Students will explore wildlife management and conservation, forestry management and conservation, fisheries management and conservation, hunting and fishing as a management tool and many other topics. Students will also explore careers in this field such as, conservation officer, park ranger, wildlife biologist, fisheries biologist, working for the corps of engineers, watershed manager, hunting guide, etc. Students will also have some hands on experiences with food plots, trail cameras, wildlife sampling, etc. Possible field trips may include the local lakes, bremer sanctuary, local creeks, local timber, etc.

## **PHYSICAL SCIENCE**

OPEN TO GRADES: 10  
PREREQUISITES: Biology  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Required  
COURSE DESCRIPTION:

A basic physical science course dealing with the applied concepts found in both elementary chemistry and elementary physics. Students must understand the basic concepts involving algebraic equations. Emphasis will be placed on the traditional application as well as simple experimental student conclusions. Students will be exposed to both lecture and lab components during this course. All students are expected to wear safety glasses.

## **SCIENCE TODAY A/B**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Biology  
LENGTH OF COURSE: 1 Semester/ A-Fall, B-Spring  
CREDIT: 0.5 Credit/Elective  
COURSE DESCRIPTION:

This class studies current science topics. Considerable time is spent reading contemporary science articles from science magazines and newspapers. Students are expected to write responses/summaries concerning the articles they read. Students also use the internet to research science related topics. The internet research will be used for in-class writings.

## **ADVANCE BIOLOGY A**

### **1<sup>ST</sup> SEMESTER – BIOL 1240 PRINCIPLES OF BIOLOGY 1, BIOL1245 PRINCIPLES OF BIOLOGY 1 LAB**

OPEN TO GRADES:	11, 12
PREREQUISITES:	Concurrent enrollment in chemistry or have completed chemistry (HHS prerequisite) A minimum GPA of 3.0 on a 4.0 scale and parent permission (SLU prerequisite)
LENGTH OF COURSE:	1 Semester
CREDIT:	0.5 Credit/Elective BIOL 1240 Principles of Biology 1 (SLU 3.0 credit hrs) BIOL 1245 Principles of Biology 1 Laboratory (SLU 1.0 credit hrs)

#### **COURSE DESCRIPTION:**

##### **BIOL 1240**

Principles of Biology 1 is the first semester of the two-semester Principles of Biology sequence. BIOL 1240 is a college level biology class in which students learn about the chemical and molecular basis of living organisms, cell structure and function, gene structure, expression and heredity, animal anatomy and physiology, and animal development. In addition to learning concepts in biology, students practice critical thinking and problem-solving. Requires BIOL 1245 to be taken simultaneously.

##### **BIOL 1245**

Principles of Biology I Laboratory is the LAB component of BIOL 1240. This section covers experimental approaches used in molecular and cellular biology, genetics, and animal physiology. Students will learn to use scientific instruments and techniques implemented in these fields. Students will propose and test hypotheses, collect and analyze data, represent data visually, and practice written and oral scientific communication skills. Requires BIOL 1240 to be taken simultaneously.

## **ADVANCE BIOLOGY B**

### **2<sup>nd</sup> SEMESTER – BIOL 1260 PRINCIPLES OF BIOLOGY 2, BIOL1265 PRINCIPLES OF BIOLOGY 2 LAB**

OPEN TO GRADES:	11, 12
PREREQUISITES:	"C" or better in BIOL 1240 and BIOL 1245
LENGTH OF COURSE:	1 Semester
CREDIT:	0.5 Credit/Elective
	BIOL 1260 Principles of Biology 2 (SLU 3.0 credit hrs)
	BIOL 1265 Principles of Biology 2 Laboratory (SLU 1.0 credit hrs)

#### **COURSE DESCRIPTION:**

##### **BIOL 1260**

Principles of Biology 2 is the second semester of the two-semester Principles of Biology sequence. BIOL 1260 is a college level biology class in which students learn the fundamental principles of evolution, the diversity of life, plant biology and ecology. In addition to learning scientific concepts in biology, students practice critical thinking and problem-solving. Requires BIOL 1265 to be taken simultaneously.

##### **BIOL 1265**

Principles of Biology 2 Laboratory is the LAB component of BIOL 1260. This section covers the fundamental principles of evolution, the diversity of life, plant biology and ecology. In addition to learning scientific concepts in biology, students practice critical thinking and problem-solving. Requires BIOL 1260 to be taken simultaneously.

## **CHEMISTRY**

OPEN TO GRADES:	10, 11, 12
PREREQUISITES:	Algebra I and have had or be enrolled in Algebra II.
LENGTH OF COURSE:	1 Year
CREDIT:	1 Credit/Elective
COURSE DESCRIPTION:	

This class helps students develop a better understanding of their physical world and prepares them for future training in the pursuit of technical and health careers. Topics covered include the following: atomic theory-classical and quantum, periodic table, bonding, gas laws, energy, reaction rate and equilibrium, acids and bases, electrochemistry, nuclear chemistry and introductory organic chemistry. This class includes lecture, demonstration, laboratory and problem solving activities.

## **ANATOMY & PHYSIOLOGY**

OPEN TO GRADES: 11, 12  
PREREQUISITES: For 1st semester student needs a "B" average in Biology. For 2nd semester student needs a "C" average in 1st semester Anatomy.  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit /Elective

### **COURSE DESCRIPTION:**

This class allows students to develop a better understanding of the body and how it works. The class also helps prepare students for future training in technical and health careers. Lectures, discussions and laboratory exercises in this class concentrate on the major anatomical structures, basic physiological functions and integrations of the following systems: integumentary (skin), skeletal, muscle, nervous, endocrine, cardiovascular, lymphatic, immune, respiratory, digestive, urinary and reproductive. Preserved adult cats are used in the laboratory to illustrate comparisons with human morphology. Other specimens include sheep brains, sheep eyes, pig hearts and pig kidneys. Anatomical models are also used to further demonstrate body structures.

## **EARTH AND SPACE A/B**

OPEN TO GRADES: 11,12  
PREREQUISITES: none  
LENGTH OF COURSE: 1 semester/ A-Fall, B-Spring  
CREDIT: 0.5 Credit/Elective

### **COURSE DESCRIPTION:**

This course investigates the internal and external functions of the Earth as well as our placement within our own solar system. The class also focuses on the aspects of our solar system, activities of stars, the relationships between planets and their stars, as well as the modern theory that helps explain it all, the Big Bang! This class is broken into 2 semester units and may be taken as a semester course. The first semester will focus on Earth's internal processes and evolution over time. The second semester will focus on Earth's external processes, our solar system, and other aspects of space.

## **FORENSIC SCIENCE**

OPEN TO GRADES: 11, 12  
PREREQUISITES: C average in Biology  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective

### **COURSE DESCRIPTION:**

This course is intended as a hands-on introduction to forensic science. Students will be introduced to methods of collecting evidence at crime scenes, as well as, laboratory processing of the evidence. Students will be required to properly collect, photograph and handle evidence at a crime scene. A



background in both biological and physical sciences is necessary to facilitate the learning in this course due to the variety of evidence that can be collected in an investigation.

## **FORENSIC SCIENCE II**

OPEN TO GRADES: 11, 12  
PREREQUISITES: C average in Biology  
LENGTH OF COURSE: 1 Semester  
CREDIT: 0.5 Credit/Elective

### **COURSE DESCRIPTION:**

This course is intended as a hands-on introduction to forensic science. Students will be introduced to methods of collecting evidence at crime scenes, as well as, laboratory processing of the evidence. Students will be required to properly collect, photograph and handle evidence at a crime scene. Topics covered within this course are blood and blood spatter, toxicology, mechanism of death and autopsy, anthropology, casts and impressions, tool marks, ballistics. Student background in both biological and physical sciences is necessary to facilitate the learning in this course due to the variety of evidence that can be collected in an investigation.

Students do not need to complete Forensics 1 to enroll in forensics 2.

## **MICROBIOLOGY**

OPEN TO GRADES: 11, 12  
PREREQUISITES: "C" average in 1st semester Anatomy  
LENGTH OF COURSE: 1 Semester/Spring  
CREDIT: 0.5 Credit/Elective

### **COURSE DESCRIPTION:**

This course is an introduction to microorganisms: bacteria, fungi, protozoa, algae and viruses. Emphasis is placed on the role of microbes in health and disease. Topics covered include cell structure, culture techniques, genetics, immunology and genetic engineering. This class is recommended for students that want to pursue biology or health careers.

## **GENETICS**

OPEN TO GRADES: 11, 12  
PREREQUISITES: "C" average in Biology  
LENGTH OF COURSE: 1 Semester/Fall  
CREDIT: 0.5 Credit/Elective

### **COURSE DESCRIPTION:**

This course studies the structure of genetic material, DNA replication, the cell cycle and mitosis, transcription, translation, meiosis, Mendelian genetics, extensions of Mendelian genetics and evolution. Students investigate inheritance patterns through experimentation with a laboratory specimen (the fruit fly).

## **ADVANCED PLACEMENT (AP) CHEMISTRY**

OPEN TO GRADES: 11, 12  
PREREQUISITES: Chemistry I with a "B" or better average. Permission of instructor.  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective (Weighted Class)  
COURSE DESCRIPTION:

Advanced Chemistry involves a review of extension of concepts introduced in Chemistry. More in-depth study of important concepts are supported by extensive lab activities. Since the goal of the class is to prepare the students for the AP Chemistry exam in May, the pace, content, and rigor of the class is similar to that of college level general chemistry. All students in laboratory are required to wear safety glasses.

## **PHYSICS**

OPEN TO GRADES: 12  
PREREQUISITES: Pre-Calculus or concurrent enrollment in Pre-Calculus  
LENGTH OF COURSE: 1 Year  
CREDIT: 1 Credit/Elective  
COURSE DESCRIPTION:

This class will approach physics with an emphasis on concepts supported by adequate mathematics. Numerous lab activities will expand upon the ideas presented in the text and lecture. Technology will be an integral part of all lab sessions. Upon completion of the class, students will be able to appreciate physics that surround them. They should also be prepared to manage the rigor of introductory college physics. All students will be required to wear safety glasses during labs.