

2010-2011 Course Descriptions

MATHEMATICS

Required for Graduation: Four years of high school Math, including Algebra I, Geometry, Algebra II, and Senior Year Math Course.**

PRE-ALGEBRA 7 – Grade Level: 7 - In this course students will continue to build a foundation upon which Algebra is based. Students will develop an understanding of all real numbers and their applications in solving equations, proportional reasoning, and linear functions. They will also learn how to interpret, represent, and compute statistics of given data. This course prepares students for further work in Algebra and science.

ALGEBRA 8 – Grade Level:8 - In this course students will continue to develop their knowledge of the real number system and begin exploring both linear and non-linear functions. They learn to identify and represent linear, quadratic, and exponential functions. Students will also explore two and three dimensional figures' classification, area, and volume. This course will help prepare students in further course study of mathematics and science.

ALGEBRA - In this course students will continue to deepen their study of functions and their various representations. Students will begin by working with systems of equations that contain three variables, and continue through the course to working with powers and polynomials. This course will help prepare students for Algebra II and science courses.

GEOMETRY - Simply put, Geometry is the study of the size, shape and position of two-dimensional and three-dimensional figures. In this course students will study basic geometric figures and facts using correct reasoning in proofs to prepare for further work in mathematics and science. In studying Geometry, students will develop foundational skills which help to build the thinking skills of logic, deductive reasoning, analytical reasoning, and problem solving.

ALGEBRA 2 - In this course, students will continue to deepen their study of functions and their various representations. Students will begin by working with linear systems and exponential functions and continue through the course with Trigonometric functions along with probability and statistics. In studying Algebra II, students will continue to develop skills that will be needed for logical thinking and deductive reasoning.

ALGEBRA 2A - In this course, students will continue to deepen their study of functions and their various representations. Students will begin by working with linear systems, quadratic and polynomial functions and continue through the course with rational expressions and break-even analysis. The end of the course will consist of some study of matrices. In studying Algebra II, students will continue to develop skills that will be needed for logical thinking and deductive reasoning.

ALGEBRA 2B - In this course, students will continue to deepen their study of functions and their various representations. Students will begin by working with exponential and logarithmic functions. We will continue through the course with Trigonometric functions along with probability and statistics. The end of the course will consist of conic sections and sequences. In studying Algebra II, students will continue to develop skills that will be needed for logical thinking and deductive reasoning.

CALCULUS - Students will reinforce ideas/concepts related to the equations, graphs, and properties of basic families of functions. Student's prior knowledge will be linked to the idea that Calculus is the study of slope, or the instantaneous rate of change, through the use of derivatives. Students will apply their knowledge to solve optimization problems, and position, velocity and acceleration problems. Finally, we will study Definite and Indefinite Integrals in which students will use the Fundamental Theorem of Calculus to approximate and find exact values for the area under a curve.

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ENGLISH/LANGUAGE ARTS COURSE DESCRIPTIONS

Required for Graduation: Four years of high school English, including *English 9, English 10, English 11, and English 12*

ENGLISH 9 - Grade Level: 9 - Required for Graduation - Pre-requisite: None - In this course, students will receive an introduction to high school English. They will study English grammar, spelling, vocabulary, paragraph and theme structure, and literature. The course will include units in expository writing, creative writing, poetry, the short story, drama, the novel, and an introduction to the formal research paper.

ENGLISH 10 - Grade Level: 10 - Required for Graduation - Pre-requisites: *English 9* - In this course, students will study cultural and historical perspectives through world literature. Students will also have the opportunity to study and recognize a variety of literary genres. Considerable attention will be directed toward improving writing skills, and continuing to build research skills.

ENGLISH 11 - Grade Level: 11 - Required for Graduation - Pre-requisites: *English 9* and *English 10* - In this course, students will read a selection of American works, including short stories, novels, essays, and poetry. Through compositions and discussion, students will relate their understanding of the works to the cultural and historical development of America. Students will also research and write about various subjects.

ENGLISH 12 - Grade Level 12 – Pre-requisites: *English 9, English 10, and English 11* – In this course, students will focus on the student as an individual, discovering their own voice, style of writing, and their own effective form of communication with others and the world around them. Students will have the opportunity to find the connection between literature, writing, and one’s own growth. Through exploration using authentic assignments and projects, students will begin to bridge the gap between others and self, realizing the different roles in family, organizations, and society in general.

JOURNALISM - Grade Level: 11-12 - Pre-requisites: Two years of High School English - In this course, students will learn writing skills particular to the field of journalism. Students will also have an opportunity to work together using current technology in the production of their own publications by assuming the various roles necessary to plan, write, edit, interview for, critique, produce, and sell their newspaper and yearbook.

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SCIENCE

Required for Graduation: Three years of high school Science, including Biology, Chemistry or Physics, and one additional Science credit.

PHYSICAL SCIENCE - Grade Level: 9-12 - Pre-Requisites: None - In this course, students will study the classification of matter, as well as its properties, patterns, and changes. They will explore the relationship between matter and different forms of energy, measurement, and motion.

BIOLOGY - Grade Level: 9-12 - Pre-Requisite: Ninth grade students may enroll by permission only - In this course, students will study the science of living things. Problem solving, model building, and laboratory work will be employed to give students a realistic grasp of course content and to allow them to find real world contexts for applying science principles. Content will include cell theory, systems classification, heredity, ecology, zoology, and other topics.

CHEMISTRY - Grade Level: 10-12 - Pre-Requisites: Algebra I and Physical Science (Minimum grade 70% for both classes) - In this course, students will study the structure, composition, and interactions of matter. The class builds on experiential learning and practical application with a heavy emphasis on laboratory exercises. Content will include the following topics: basic reactions, atomic theory, qualitative analysis, periodic table applications, structure of matter, chemical nomenclature, stoichiometry, kinetic molecular theory, and other introductory topics.

PHYSICS - Grade Level: 11-12 - Pre-Requisites: Physical Science, Biology and Algebra I (Minimum grade 70% required in all classes). Chemistry not required but highly recommended. In this course, students will study the natural science concerning principles and laws governing the behavior of the inanimate world. The class is an experientially based course, focusing on problem solving. Content will include the following topics: Newton's Laws of Motion, momentum, fluids, light, sound, and other introductory topics.

ANATOMY PHYSIOLOGY - Grade Level: 11-12 - Pre-Requisite: Chemistry - Students will study each body system with emphasis placed on the naming of structures and the functions of those structures. Students will use dissections, diagrams, microscopes and models to gain insight on arrangement of anatomical parts. The cause and effect relationship of disease to the human body will also be emphasized. Efforts will be made to explore different health care careers through guest speakers and field trips. This course relies on memorization and will benefit any student, but especially those interested in a health care career.

ANIMAL SCIENCE - 1 year - Grade Level: 9-12 - Pre-Requisites: None - Students will be or will become FFA members and carry a SAE career experience program. In this introductory level course, the student will develop employability skills in the science of animal agriculture. Topics covered will include: the importance of animals in society, consumer concerns, animal welfare, the large animal industry, poultry industry, dairy industry, equine industry, and aquaculture industry, alternative animal agriculture, an overview of the small animal industry, scientific classification of animals, animal behavior, animal genetics, scientific selection of animals, the reproduction process, animal growth and development, animal nutrition, meat science, milk quality and dairy products, parasites of animals and animal diseases. In addition, leadership and communication skills will be gained through FFA involvement in leadership contests, career preparation events, cooperative projects on the school farm/land lab, committee work, chapter activities, and leadership conferences.

ENVIRONMENTAL SCIENCE - 1 year - Grade Level: 10-12 - Pre-Requisites: 70% in Physical Science, Biology, Animal Science, or Botany - In this course, students will study environmental science using earth science and ecology concepts to address environmental concerns on local, national, and world levels. Students in the course will be expected to take an active role in local environmental projects, which will also involve community service.

SOCIAL STUDIES

Required for Graduation: Three years of high school Social Studies, including World History, U.S. History, and Government/Economics.

WORLD HISTORY - Grade Level: 9 - Pre-Requisites: None - Student will acquire an understanding of the concept of global interdependence and develop an international perspective. Opportunities will be provided for students to examine problems and issues that are shared by all nations and strategies for dealing with these issues. Students will be encouraged to understand, tolerate, and appreciate various cultures. Students will learn to view issues from a global perspective, and will demonstrate an awareness of human rights. In addition, this course will show the ways physical, economic, and cultural geography affect the life of various regions of the world.

U.S. HISTORY - Grade Level: 10 - In this course, students will study events in U.S. history during the 20th century. The student will investigate America's wars, economic growth, industrial development, Governmental growth, social changes, and relationships with nations.

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GOVERNMENT/ECONOMICS - Grade Level: 11 - Pre-Requisite: U.S. History - Government examines the basic functions of federal, state, county, and municipal government today. Analysis of the U.S. Constitution, the structure of government, and the role of politics are emphasized. Economics will be a combination of microeconomics and macroeconomics. Students will examine their roles as consumers and how economic decisions at world, national, and state levels affect their lives. Economics will discuss banking, credit, taxes, comparison-shopping, and financial planning and responsibility.

SOCIOLOGY - Grade Level: 11-12 - Pre-Requisites: Junior/senior or by instructor permission - Sociology will be the study of human relationships. Emphasis will be placed on terminology used in sociology. Students will study social problems, social behavior, social institutions, and collective behavior in order to understand themselves and their personal problems.

ADVANCED PLACEMENT HISTORY - Grade Level: 11-12 - Pre-Requisites: World History and U.S. History - In this course, students will study either European history from the Renaissance to the present or American history from colonial times to the present. In addition, they will write numerous essays and take many practice tests in preparation for the Advanced Placement tests given in the spring. Success on the AP tests will usually result in the granting of college credit or the waiving of certain courses.

PHYSICAL EDUCATION/HEALTH

Required for Graduation: Half year of Physical Education and one half year of Health Education.

HIGH SCHOOL PHYSICAL EDUCATION - Grade Level: 9-10 - Pre-Requisites: None - In this course, students will continue with more advanced skills in the activities learned during physical education 7 and 8. More emphasis will be placed on specialization in physical fitness activities and on the lifetime sports such as tennis, golf, badminton, archery, volleyball, and others.

HEALTH

HEALTH - Grade Level: 9 - Pre-Requisite: None - In this course, students will study areas of nutrition, communicable diseases, chronic and degenerative diseases, first aid, and the health impact of drugs, alcohol and tobacco use and abuse.

STRENGTH & CONDITIONING - Grade Level: 9-12 - Pre-Requisite: High School Physical Education - Students will achieve physical fitness mainly through weight training and some form of aerobics. Aerobics is a method of conditioning the cardiovascular system and is just one of three components to total fitness. Strength and flexibility are the other two. The weight training phase of the class will be the major focus and comprise 80% of the time. The Bigger Faster Stronger regimen of weight training will be utilized.

FOREIGN LANGUAGE

SPANISH I - Grade Level: 9-12 - Pre-Requisite: None - Spanish I is an introductory course in the Spanish language and its accompanying culture. The course will provide a basic understanding of Spanish sentence structure, vocabulary, and customs through readings, lectures, movies, and special projects. Students will be expected to master basic skills in listening, speaking, reading, and writing in the target language.

SPANISH II - Grade Level: 9-12 - Pre-Requisite: Spanish I - Spanish II is the second year course in the study of the Spanish language. After a review of the basic knowledge learned in Spanish I, the student will begin to express himself/herself with increasing complexity and vocabulary. Students will be expected to refine his/her use of Spanish grammar and pronunciation.

SPANISH III - Grade Level: 10-12 Pre-Requisites: Spanish I and Spanish II - Spanish III is the third year course in the study of the Spanish language. After a review of the basic knowledge learned in Spanish I and II, the student will increase his/her ability to express ideas in a wider scope. Students will be expected to increase proficiency in grammar and vocabulary and pronunciation.

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SPANISH IV - Grade Level: 10-12 - Pre-Requisites: Spanish I, Spanish II and Spanish III - Spanish IV is the fourth year course in the study of the Spanish language. After a review of the basic knowledge learned in Spanish I, II, and III, the student will work toward fluency in the language. Students will be expected to demonstrate an understanding of complex language structures.

MUSIC

MEN'S CHOIR/WOMEN'S CHOIR - Grade Level: 9-12 - Pre-Requisite: None - Choir members will participate in what is generally considered a performance organization. The first term in the school year focuses on the choral ensemble aspect of vocal singing. The second term of the school year focuses on the musical production aspect of vocal singing. The first term choir is involved in several performances at the school and in the community. The second term choir is involved with preparing the entire

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musical performance which takes place in the spring. They design and build the props, create their own costumes, run the sound and lights for the performance and perform the musical in its entirety multiple times for an audience.

MUSICAL THEATER - Grade Levels: 9-12 - Pre-Requisite: Musical Theater is involved with preparing the entire musical performance which takes place at the end of the semester. They design and build the props, create their own costumes, run the sound and lights for the performance and perform the musical in its entirety multiple times for an audience. Students may be part of the cast or crew for the performances and no singing is required. Multiple singing roles will be available for those students interested.

PIANO- Grade Levels: 9-12- Pre-Requisite: None. Piano class will provide individual instruction on how to read and play piano music. This class is designed for students of any level, including those that have never touched a piano.

HIGH SCHOOL BAND - Grade Level: 9-12 - Pre-Requisite: Satisfactory performance in Junior High Band and teacher approval - Band members will participate in what generally is considered to be a performing organization. It is, therefore, necessary that the student have a firm grasp of the fundamentals of music and playing before entering the group. The majority of the first 10-12 weeks is marching band. The remainder of the year is spent in concert band. Concert band is involved in several concerts, assembly programs, and MSBOA festivals. Students will also have a chance to perform on an individual or small group basis in the Solo and Ensemble Festival. A wide variety of literature will be performed from the standards (MSBOA music list) to the latest popular music.

ART

ART DESIGN – Grade Level: 9-12 – Pre-Requisites: None Students will be involved in a wide variety of project, some of which may include: Graphic Design: Creating movie posters, CD covers, flyers and pamphlets.

Architectural Design: Designing and building models of homes or commercial buildings. Theatrical Design: Creating stage and scenery in models and also learning scenic painting techniques. Fashion Design: Studying, designing and creating clothing and mock-ups. Automotive Design: Developing the look and practical aspects of a model car. Motion Picture Effects: Learning sculpting, modeling and casting for physical special effects.

TECHNOLOGY

COMPUTER LITERACY - Grade Level: 9 - Pre-Requisites: None - In this course, students will be introduced to computers and their uses. Topics covered will include keyboard techniques, the history of computers, careers using computers, computer application in our daily lives. Particular attention will be paid to MS Word, Excel, Access, and Power Point applications. As a final project, an imaginary business will be created and presented to the class. Business documents will be designed using knowledge gained earlier in class.

ADVANCED COMPUTER APPLICATIONS - Grade Level: 9-12 - Pre-Requisite: A course in basic computer application skills - In this course, students will create projects focusing on advanced word processing, spreadsheets, database manipulation, and presentation software applications. The students will also learn how to design a Web page, and incorporate photography using Photoshop.

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MULTI-MEDIA - Pre-Requisite: Computer Literacy or department approval – The learner will be introduced to a variety of tools for visual communication and programs from Adobe and Macromedia. Photoshop, Illustrator, and InDesign from Adobe will be introduced. Dreamweaver, Flash, and Fireworks will be introduced from Macromedia. Projects will include a graphic animation, movies, and web pages.

DIGITAL AV- Grade Level 9-12 - Pre-Requisites: Computer Literacy, Journalism or by instructor permission. In this course students will use modern technology to create a professional news presentation. Students will be required to gather news in a video format and edit it using computer software into a viewable product. In the future, students will also create professional copy and broadcast it live or taped to the school. Students will also publish important video to the web and local cable access. During the course students will broaden their knowledge of digital video, connectivity, mixing, web publishing and video editing. Students will also continue to refine their writing and language skills. Finally, students will learn to manage time effectively and create a high quality product with an inflexible deadline.