



# **Curriculum Guide**

## **2015-2016**

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## **INTRODUCTION**

The purpose of this guide is to inform students and parents of the courses available for planning graduation from the Academy. The selection is strictly college preparatory without an abundance of electives.

A brief description of each course is included with some guidelines the Academy has in place to promote fairness and consistency.

If you have any questions, please refer them to the Guidance Counselor or Headmaster.

## **MISSION STATEMENT**

Grand River Academy is a college preparatory boarding and day school that helps young men activate their academic, emotional and social potential and prepares them for lifelong success.

## **PHILOSOPHY OF GRAND RIVER ACADEMY**

The Grand River Academy, believes that small classes, mandatory study periods, and special help sessions inspire Academy students to take a personal interest in their education, often for the first time. A traditional all-male boarding environment in a rural setting focuses students in their preparation for college. An integral part of the program is the dedicated faculty and staff, who emphasize individual attention for every student.

Grand River Academy values independence, which allows us to implement a college preparatory curriculum that enables students to experience significant academic growth. As one of the oldest single sex, non-military boarding schools in the country, many traditions are evident in our fully accredited program. Students gain pride in and develop self-reliance in our challenging academic atmosphere, structured sports and afternoon activities programs, and the leadership opportunities by our small community.

We believe that responsible, college-prepared students are developed through our structured, yet flexible program. The Student Assistance Program enables many boys to experience not only academic success, but also personal and social growth for a better understanding of the society in which they will function. The Academy believes that with the support of our Learning Center, selected students with learning differences can also meet the requirement of admission to a college or university prior to graduation.

As a secular school, Grand River Academy embraces diversity by welcoming boys not only from many states and countries, but also from many ethnic, cultural, and religious backgrounds. We believe our success is due to our nurturing family atmosphere, our understanding and compassion, and our persistence.

## ACCREDITATION

The Grand River Academy is a college preparatory high school chartered by the State of Ohio as prescribed by the State Department of Education.

The Academy is accredited by the Independent Schools Association of the Central States and holds membership in it and the National Association of Independent Schools, North Central Association, Cleveland Council of Independent Schools, Midwest Boarding Schools Association, The Association of Boarding Schools, and the International Boys' School Coalition.

## ACADEMIC OBJECTIVES

1. To provide an alternative to the large, impersonal public school.
2. To provide an atmosphere in which non-performing students may achieve.
3. To prepare students for admission to a degree-granting institution.

## STRATEGIES

- Small classes of approximately seven students
- Help sessions scheduled by the teacher
- Special afternoon study halls for students with incomplete assignments
- Two-hour evening study periods in all dormitories
- Special evening study hall in Bauder Hall providing more focus for selected students
- Ninety-minute Saturday study sessions for students with low grades
- International Student Program
- Residential staff available for academic support

## GRADUATION REQUIREMENTS

The Grand River Academy requires twenty-one (21) units of credit to be successfully completed in grades 9 through 12.

The twenty-one units required for graduation include:

- 4.0** Units of English
- 4.0** Units of Math  
(Minimum requirements include Algebra 2 or equivalent)
- 3.0** Units of Natural Science  
(1 must be in physical science and 1 must be in Biology)
- 3.0** Units of Social Studies  
(.5 must be American History and .5 must be Government with Financial Literacy)
- .5** Unit of Physical Education (\* can be waived with 2 seasons of an approved sport)
- .5** Unit of Health
- .5** Unit of Computer Applications/Technology
- 6.5** Units of Electives/Foreign Language (1 unit must be in the "fine arts")

**Student must be accepted by an accredited college.**

## THE COLLEGE PREPARATORY CURRICULUM

The following subjects are **recommended** by grade level.

<u>Credit</u>	<u>Grade 9</u>	<u>Credit</u>	<u>Grade 10</u>
1.00	Introduction to Comp and Lit.	1.00	World Lit. and Composition
1.00	Physical Science	1.00	Biology I
1.00	Foreign Language	1.00	Foreign Language
.25	Physical Education	.25	Physical Education
1.00	Civics	.50	Health
1.00	Algebra I	1.00	Geometry
.50	Fine Art	1.00	US History

<u>Credit</u>	<u>Grade 11</u>	<u>Credit</u>	<u>Grade 12</u>
1.00	American Lit. and Composition	1.00	European Lit. and Composition
1.00	Chemistry	1.00	Foreign Language
1.00	Foreign Language	1.00	Physics
1.00	U.S. History	1.00	Pre-Calculus or Calculus
.50	Graphic Design	.50	Government
1.00	Algebra II or Pre-Calculus	.50	Fine Art
.50	Psychology or Economics	.50	Humanities Elective
		.50	History Elective

Student must take at least 6 classes per semester unless the Academic Dean approves an alternative schedule. A student must take English, Science, History, and Mathematics every year.

## THE MINIMUM CORE FOR COLLEGE PREPARATION

English	4 units
Math	4 units
Science	3 units
Social Studies	3 units
Foreign Language	2 units
The Arts	1 unit

Some programs may require more extensive preparation in specific subject areas. Check with the guidance counselor and the college/university of your choice for additional information.

## **PUPIL CLASSIFICATION BY CREDIT**

Listed below is the minimum number of credits required to be placed in each grade level.

To be assigned to:	A student needs:
Grade 9	0 credits
Grade 10	5 credits
Grade 11	11 credits
Grade 12	16 credits

## **GRADING SYSTEM**

90 - 100	=	A
80 - 89	=	B
70 - 79	=	C
60 - 69	=	D
59 & below	=	F

GPA is calculated on a 4.0 scale. Honors courses, including Pre-Calculus, Calculus 1, and Calculus 2 are 5.0 courses.

## **GRADE REPORTS**

Each classroom teacher updates Ed-line weekly and grade reports are printed out each marking period. .

Students receiving deficient grades will be monitored with weekly progress reports and will be placed on a Mandatory Extra Help plan. Parents will receive these reports each week via Ed-line.

## **MARKING PERIODS**

There will be 8 marking periods throughout the year along with the following dates for semester and final exams:

\*Semester exams January 20-22, 2016

\*Final Exams: May 31-June 2, 2016

## **MANDATED GRADUATION TESTS**

The State of Ohio requires all chartered schools to administer the Ohio Graduation Tests to all sophomores, juniors, and seniors. These tests consist of writing, reading, math, history, and science. All students must pass five parts to receive a diploma in the State of Ohio.

## **SCHEDULE CHANGES**

All changes in the assigned schedule must be made through the Academy's guidance counselor.

Classes dropped after the 10th day will be reflected on the transcript as "withdrawn failing." The Headmaster, teacher, guidance counselor, and parent must approve any class dropped after the 10th school day.

## **HEADMASTER'S LIST/HONOR ROLL**

At the conclusion of every quarter, a list of students attaining the criteria for Headmaster's List and Honor Roll will be posted.

Headmaster's List requires that a student have an average of all subjects (except physical education) of at least 90%. No single subject, including physical education, can be below 90%.

Dean's List requires students have an average of 90% or above and lowest grade, including Physical Education, cannot be lower than an 85%.

Honor Roll status requires students have an average of all subjects (except physical education) of at least 80%. No single subject, including physical education, can be below 75%.

The following classes can have an additional five points added to their average: Pre-Calculus, Calculus, and Physics.

Students must be taking at least four core courses in order to be eligible for the Honor Roll and Headmaster's List.

## **COLLEGE CREDIT PLUS ENROLLMENT**

The College Credit Plus Program has been established to permit high school students from the state of Ohio to earn college and high school graduation credit through the successful completion of college courses. The program is intended to provide expanded opportunities for appropriately qualified high school students to experience course-work at the college or university level.

Ohio residents may have tuition, books, materials, and fees paid for by state funds if the school district is notified by March 30 of each year for enrollment the following year. Ohio residents are responsible for transportation costs. Out-of-state students are responsible for all college tuition, books, materials, fees, and transportation. No part of the Academy's tuition will be refunded.

All students must receive clearance by the Academic Dean prior to application for the College Credit Plus Program to any college or university while a student at the Academy. Students are responsible for transportation to and from these college courses.

If requested by the student, the College Course may be applied toward a high school elective credit and be scaled on a 5.0 scale toward the student's G.P.A.

**TESTING**

<u>TEST</u>	<u>PARTICIPANTS</u>	<u>DATE</u>	<u>CONTACT PERSON</u>
Ohio Graduation Test	All 10 <sup>th</sup> , 11 <sup>th</sup> , and 12 <sup>th</sup> graders	October/March	College Placement Counselor
PSAT	11th graders	October	College Placement Counselor
ACT	11th & 12th graders	spring/fall	College Placement Counselor
SAT	11th & 12th graders	spring/fall	College Placement Counselor
TOEFL	International students	spring/fall	International Student Advisor
SLEP	International students	fall	International Student Advisor
Advanced Placement Exams	Eligible students	May	College Placement Counselor

## **CURRICULUM LISTED BY CREDIT**

### **ENGLISH**

8 <sup>th</sup> Grade English	
Introduction to Literature and Composition	1.00
World Literature and Composition	1.00
American Literature and Composition	1.00
European Literature and Composition	1.00
Yearbook	.50
Poetic Techniques	.50
Creative Writing	.50
American Horror	.50
American Heroes	.50
The Works of Mitch Albom	.50
Young Adult Literature	.50
Film and Literature	.50
Satire	.50
Writing Lab	.25
Graphic Novel	.50

### **MATH**

Algebra 1/2	
Algebra I	1.00
Intermediate Algebra	1.00
Geometry	1.00
Algebra 2 Survey	1.00
Algebra II	1.00
Intro to College Algebra	1.00
Pre-Calculus	1.00
Beginning Calculus	1.00
Advanced Calculus II	1.00
Finite Math	1.00
Sports Statistics	.50

### **SCIENCE**

8 <sup>th</sup> grade Science	
Physical Science	1.00
Biology I	1.00
Biology II	1.00
Introduction to Chemistry and Physics	1.00
Chemistry	1.00
Physics	1.00
Environmental Science	.50

Geology	.50
Anatomy and Physiology	.50
Organic Chemistry	.50
Robotics	.50
Forensics	.50
Animal Behavior	.50
Astronomy	.50
Sports Medicine	.50

## **SOCIAL STUDIES**

8 <sup>th</sup> Grade World Geography	
Civics	1.00
World History	1.00
US History	1.00
World Geography	.50
Principals of Government	.50
Economics	.50
Psychology	.50
Sociology	.50
American Wars	.50
American Presidents	.50
Modern World History	.50
Current Events	.50
African American History	.50
History through Sports	.50
Conflicts over the Past 50 Years	.50

## **FOREIGN LANGUAGE**

Mandarin I	1.00
Spanish II	1.00

## **INTERNASTIONAL STUDENT PROGRAMS**

ELL 1 Grammar	1.00
ELL 1 Writing	1.00
ELL 1 Reading and Vocab	1.00
ELL 1 Listening and Speaking	1.00
ELL 2 Reading and Vocab	1.00
ELL 2 Grammar and Writing	1.00

## **Visual and Graphic Design**

Graphic Design	.50
Web Design	.50
Intro to Photo	.50
Advanced Photo	.50
Videography	.50
Intro to Technology	

**Fine Arts/Electives**

Art	.50
Ceramics	.50
Advanced Art/Portfolio Creation	.50
Music Theory	.50
Contemporary Performance	.50
Foundations of Learning Program	.25
Introduction to Western Philosophy	.50
Foundations of Learning Class	.25

**PHYSICAL EDUCATION/HEALTH**

Physical Education	.25
Health	.50

## CURRICULUM

### ACADEMIC SUPPORT PROGRAM

#### **The Foundations of Learning Program**

**.25 credit**

The *Foundations* Learning Program provides comprehensive academic support for students with learning challenges. The goal of the *Foundations* Learning Program is to assist the student in developing more effective learning strategies to reach his full potential as a self-directed learner. Daily sessions with the Learning Program Instructor are designed to promote independent learning through individualized tutorials that emphasize learning strategies, organizational skills, time management and self-advocacy. The *Foundations* Learning Program instructor will help the student to identify his preferred learning style and to apply effective methods for studying, test preparation, test-taking strategies, etc. A cognitive remediation component employs the principles of educational kinesiology—intentional physical movements practiced daily to re-pattern an inefficient neurological wiring system.

#### **8<sup>th</sup> Grade Foundations of Learning Class**

### ENGLISH

#### **Intro to Lit and Composition 1 Credit**

English 9, introduces students to college prep reading, analyzing, and writing about literature, while focusing on the fundamentals such as vocabulary development, spelling, comprehension

and study skills, grammar, usage, and the mechanics of writing.

#### **8<sup>th</sup> Grade English and Grammar and Composition**

Students in this course will begin writing the various types of paragraphs and move on to writing the various types of essays, both creative and expository. They will refine their language skills, focusing on such fundamentals as vocabulary development, spelling, grammar, usage, mechanics, and the process of writing.

#### **World Literature and Composition 1 Credit**

Prerequisite: teacher recommendation

English 10 is designed to give the student an introduction to literature from a variety of cultures and to introduce several major themes, archetypes, and stories that will be expanded upon in later courses. The first semester focuses on the foundations of Western literature, while the second semester examines authors and works from around the globe in a chronological survey. Vocabulary development, grammar, usage, and writing are major elements of the course.

#### **American Literature and Composition 1 Credit**

Prerequisite: teacher recommendation

American Literature is a chronological study of the literature of North America. Students examine the development of American literature through the directed reading and discussion of examples of writing from many periods. Vocabulary development, grammar, usage, and

writing skills are a major focus. The various elements of the course are unified and evaluated in various compositions in which the student must react to literary works.

### **European Literature and Composition 1 Credit**

Prerequisite: Teacher recommendation

This is a college preparatory European literature survey course. It is arranged chronologically, with the historical and cultural background of the literature forming an important component of the course. The focus is on critical reading, accompanied by oral and written discussion, of narrative and epic poetry, drama, fiction, and non-fiction. The course offers an in-depth focus on representative works of the most important writers in the canon.

### **Speech .5 Credit**

The introduction to speech course is designed to give students of various high school age levels an introduction to the basic aspects of presenting a prepared speech to an audience. It also involves experiences in preparing and organizing material, as well as presenting a finished speech. Students also experience interviewing, oral interpretation and debate. Various projects with different goals are assigned during this one-semester course.

### **Creative Writing .5 Credit**

This English elective is geared towards upperclassmen intending on pursuing a college major in writing. Emphasis is placed on creating written works in many genres including poetry, fiction, and short stories.

### **Mitch Albom .5 Credit**

Students in this course will discuss the human experience in regards to themes such as spirituality, death, love, regret, and self-actualization as the characters in the novels learn to deal with the struggles of existence. The students will refine their comprehension and writing skills as they study multiple novels written by Mitch Albom.

### **Contemporary Literature .5 Credit**

This course is an introduction to the multiple genres of contemporary young adult literature intended mainly for the reluctant reader.

### **American Horror Classics .5 Credit**

This elective class features several different genres of horror from literature ranging from the late 19<sup>th</sup> century to the present as well as the films that accompany them.

**Heroes of Their Day**  
**.5 Credit**

This course takes the reader into the several differing periods of literature that depict heroes of differing archetypes offering an overview of both the eras within which they were written. This course is designed to challenge the reader to dissect the archetypes of heroes as well as analyze and interpret their characterizations, actions, and social positions and how they reflect the archetype.

**Poetic Techniques**  
**.5 Credit**

This course covers traditional poetic forms that have been involved in movements throughout the centuries and the influence on contemporary poetry through comparison.

**Film and Literature**  
**.5 Credit**

This course is an introduction to the critical study of film as literature in which students learn to read, discuss, interpret and write about films with greater awareness, clarity, and skill.

**Satire**  
**.5 Credit**

This course is a study of comedic/satirical writing, reading about the history of satire, reading and studying famous writers in this genre.

**Writing Lab**  
**.25 credit**

Students will be referred to this course intended to help the struggling writer. Focus will be on grammar and composition.

**SOCIAL STUDIES**  
**8<sup>th</sup> Grade World Geography and Cultures**

World Cultures and Geography is an integrated social studies unit that will foster an atmosphere of inquiry in the classroom and help students gain a broader appreciation for our and other cultures in the changing world of today. The class combines traditional print resources and smart board lessons along with digital resources from myNGconnect with online materials and instructional programs and other online sources. The course includes standard assessment along with project based assessment.

**Civics**  
**1 Credit**

Civics is a course in practical law that provides new information, practical advice, and competency building activities. Civics is designed to provide students with the ability to analyze, evaluate and in some situations resolve legal disputes. The students will become acquainted with everyday situations in which most people would be involved. Respect for law and legal authority is part of this. The course will cover two semesters and will explain how our legal process works and how individual rights and obligations are interrelated. In addition, the course will aid in the

development of responsible citizenship, the encouragement of critical thinking and competencies essential for effective living and the appreciation of the basic values underlying our way of life. Lastly, this course will develop in the students the knowledge and skills necessary for survival in a litigious society.

### **World History**

#### **1 Credit**

Prerequisite: Civics

World History is designed to acquaint the student with our world and its development. There is special emphasis on historical, political, economic, and social concepts. It is hoped that an understanding of the way people lived in the past will help the student grasp events in the world today. Topics will include pre-history to modern times in Europe, Soviet Union, China, Japan, Middle East, Africa, and the Americas including the United States.

### **United States History**

#### **1 Credit**

United States History is designed to acquaint the student with both the historical background and development of the United States and trace the founding concepts through the present day. We believe that part of education consists of basic issues and concepts, which are heavily emphasized in this course. Consequently, a chronological development of United States History

from European Exploration through Reconstruction is followed first semester. Second semester, the course follows a topical sequence from the end of the Civil War to the present. The dividing points of the second semester are economics, social and political, and foreign affairs.

### **World Geography**

#### **.5 Credit**

World Geography is designed to study the regional concepts of the world through thematic maps and test material. These maps and tests will be employed to show qualitative differences of a certain category of information and may also show quantitative differences in information. The course will likewise stress both political and physical geography but will tend to relate more to economic and demographic aspects of world geography.

### **Principals of Government**

#### **.5 Credit**

American Government, a senior course, is intended to increase the student's understanding of political systems and governmental institutions. The philosophy of democracy and a comprehensive study of our federal government form the nucleus of this course. The role and responsibilities of the individual citizen are stressed in the course. The economics component is designed to familiarize the student with basic concepts in our economic system as well as other economic systems. It attempts to provide a fundamental foundation that the student can build on to help carry him through life. He can

take this foundation and apply it to economic issues of our day.

**Economics**  
**.5 Credit**

Economics is designed to acquaint the student with basic concepts in our economic system as well as other economic systems. It attempts to provide a fundamental foundation, which the student can build on to help carry the student through life. Thus, the student can take this foundation and apply it to economic issues of our day.

**Psychology**  
**.5 Credit**

This course is a systematic approach to the major concepts and issues in psychology. It attempts to encourage informed critical thinking skills as they are applied to both normal and abnormal development of the individual throughout the life span. The focus of the course is on how to approach emotional concerns from multiple perspectives and how to integrate biological and non-biological approaches to psychological therapy. This course requires a daily journal as well as a final paper on an approved topic in psychology.

**African American History**  
**.5 Credit**

Starting with the events that led up to the Civil Rights Movement, students will read and research and immerse themselves in the African American experience in America.

**Sociology**  
**.5 Credit**

**American Wars**  
**.5 Credit**

This course is intended to increase a student's understanding and knowledge of the wars America has been involved in during the 20<sup>th</sup> and 21<sup>st</sup> centuries. Special emphasis will be placed on the causes and effects of these wars.

**American Presidents**  
**1 Credit**

**Current Events**  
**1 Credit**

This course is designed to acquaint the student with a wide range of current worldwide and national issues. Important current events in the news will be traced to their historical roots. This course is designed to assist students in becoming more informed citizens and to give them the historical background of events necessary to better understand current situations.

**Modern World History**  
**1 Credit**

Looking at history is essential if you are going to understand what is going on in our world today. During the semester, we will explore what incidents lead us to the answer to what makes the world today and tomorrow.

**Conflicts over the Last 50 Years**  
**.5 Credit**

## **History through Sports** **.5 Credit**

We examine the historical development of sports in the United States from a societal and cultural viewpoint. This course provides opportunity to examine the relationship between sports and nationalism, sports and politics, sports and the economy, sports and society change, sports and gender, and sports and American expansion.

## **MATHEMATICS**

### **Algebra 1/2**

Algebra 1/2 concentrates on developing the student's computational proficiency with whole numbers, fractions, and decimals. It also emphasizes percent and ratio word problems using these numerical skills. This course begins the formal study of geometry by introducing the concepts of perimeter, area, and volume. The goal of this course is retention of computational skills necessary for the algebra courses to follow.

### **Algebra I** **1 Credit**

Algebra I is the introduction to the principles and practices of elementary algebra while continuing to reinforce basic computational skills with fractions, decimals, percents, and ratios. The student is introduced to the structure and logic of an algebraic system. At the same time, the student is introduced to applications and problem-solving

techniques using algebraic skills learned. The goal of this course is to develop a student's proficiency with numerical skills and algebraic algorithms.

### **Intermediate Algebra** **1 Credit**

Prerequisite: Algebra I

Intermediate Algebra is an integrated course designed for the student who has completed Algebra I and/or Geometry and needs a reinforcement of elementary algebra topics before enrolling in college preparatory Algebra II. The student will be presented a full review of basic algebra concepts leading to the presentation of intermediate topics in algebra, including an introduction to non-linear functions. At the same time, the student will be presented geometry topics such as angles, perimeter, area, and volume in the form of application problems. The student will learn to use the calculator as a computational tool. Manipulative, practical, and applied problems are emphasized throughout the course to ensure a thorough understanding and the retention of the concepts presented.

### **Algebra II** **1 Credit**

Prerequisite: Algebra I, Geometry

Algebra II is the continuing study of the principles and practices of algebra. The student studies the structure, logic, and graphical representation of algebraic systems. At the same time, the student also studies the application and problem-solving techniques of these systems as tools that can be applied to courses of study beyond the field, particularly the sciences. Basic computational and

algebraic skills are constantly reinforced, initially to attain understanding, and secondly, to assure retention for future math courses. TI-86 calculator recommended.

### **Geometry 1 Credit**

Pre Requisite Algebra 1 or Intermediate Algebra

It is not the purpose of this course to develop a postulational system that meets the rigorous test to completeness, consistency, and independence. Its purpose is to help a student to learn much about many aspects of geometry in an intuitive setting. The primary intent is to provide a sound basis in deductive thought processes. Its goal is to enable students to understand and draw upon their ability to reason within a logical framework, but with the help of experimentation and induction. Achieving this goal will allow students to face more confidently the challenges and problems they meet throughout life. From their work, students will be better prepared to identify, focus on, attack, and resolve the concerns and problems they will experience.

### **Algebra 2 Survey 1 Credit**

Pre Requisite Algebra 1 or Intermediate Algebra

### **Introduction to College Algebra 1 Credit**

Prerequisite: Algebra II

Introduction to College Algebra is a course designed for the student who will not need Calculus in college. This course

will prepare the student for Pre-Calculus or a first course in College Algebra. Topics include an in-depth coverage of intermediate and advanced algebra, exponential and logarithmic functions, conic sections, matrices, permutations and combinations, and arithmetic and geometric sequences. The graphing calculator will be used extensively as a computational and learning tool.

### **Pre-Calculus 1 Credit**

Five-point Honors class  
Prerequisite: Algebra II

Pre-Calculus is designed to teach the fundamental concepts and skills necessary for students to succeed in calculus and in disciplines that are mathematically based, such as physics. It contains an in-depth coverage of trigonometry and the fundamentals of intermediate and advanced algebra. Calculator use is presented and encouraged as an appropriate tool of technology. A goal is to teach students to apply computational skills to develop strategies in reasoning and problem solving. TI-86 or similar calculator required.

### **Beginning Calculus 1 Credit**

Five-point Honors class  
Prerequisite: Pre-Calculus

The Calculus course is taught based on the concept of incremental development. The student is exposed to new concepts in small steps over the course of several lessons. Emphasis on review problems permits long-term practice with the different calculus skills. Development of fundamental theorems is introduced later on in order to give the students time

to understand the rules they are trying to prove. By teaching the course in this fashion, students are able to acquire a firm mathematical foundation for the pursuit of higher-level math courses in college. Topics included in this course are Limits, Continuity, Exponential Growth and Decay, Derivatives, the Fundamental Theorem of Calculus, Maximum and Minimum Problems, Implicit Differentiation, Solids of Revolution, Area under a Curve, Area Between Two Curves, and the Mean Value Theorem. TI-86 or similar calculator required.

### **Advanced Calculus**

#### **1 Credit**

Five-point Honors Class

Prerequisite: Calculus I

This course continues with the concepts of Calculus I. It is taught with the same book, but at a slower pace. The class will start towards the end of the calculus book and continue until the book is finished. We will then begin reviewing for Calculus AP exam. The class will concentrate on doing practice problems and tests in order to expose the students to the information on the exam.

### **Statistics**

#### **1 Credit**

Prerequisite: Pre-Calculus

This class is designed for students to have a basic understanding of statistics. It will be for students that feel Calculus 1 or 2 may be too difficult for them or for students that believe statistics will be a major part of their education once they move onto college. The course will be taught with an emphasis on statistical thinking.

### **Discrete Math**

#### **1 Credit**

#### **Prerequisite Calculus 2**

Discrete math is a class focused on proving various aspects of mathematics. Rather than focus on one topic, say vectors, we will be proving things from the fields of probability to geometry. At the end of the course we will venture outside of the book to put the skills we have learned throughout the year to work in more interesting parts of mathematics like Abstract Algebra and non-Euclidean geometry

### **Sports Statistics**

#### **.5 Credit**

#### **Prerequisite Algebra 2**

The purpose of this course is to introduce the student to the use of mathematics, statistics, and probability in the analysis of sports performance, sports records, and strategy. Topics include mathematical analysis of the physics of sports and the determinations of optimal strategies.

Our objective is for students to use these tools over the duration of the course to develop new diagnostic statistics and strategies for sports.

## **FOREIGN LANGUAGES**

### **Mandarin I**

#### **1Credit**

Mandarin I is designed to develop proficiency in speaking and understanding spoken Mandarin with reading and writing receiving somewhat secondary importance. The approach is basically eclectic. In addition to the text

and workbook, students utilize videos, tapes, and records to perfect their mastery over various topics.

## **Spanish II** **1 Credit**

Prerequisite: Spanish I and Permission of Instructor

Much of the first semester is spent reinforcing the work presented in Spanish I. More advanced work is presented second semester. The format continues to be thematic, with students gaining facility in certain grammatical forms and expanded topics of conversation. Students learn to recognize the names and accomplishments of historic and contemporary Hispanic figures of politics and the arts.

## **HEALTH AND PHYSICAL EDUCATION**

### **Health** **1 Credit**

The purpose of this course is to present the basic concepts in the field of health in a progressive sequence to help the students prepare and understand the immediate and future consequences of their actions. This course will fulfill all the requirements governed by the State of Ohio.

### **Physical Education** **.25 Credit**

A program for physical education in this boarding school must extend beyond the traditional standards of the school day. This program will provide an opportunity for students to participate in physical activities with a divided

emphasis on competitive and leisure time pursuits. A variety of team sports are incorporated as well as a weight-training program.

## **SCIENCE**

### **8<sup>th</sup> Grade Science**

#### **Physical/Earth Science** **1 Credit**

The purpose of this first-year course is to introduce students to the basic concepts found in all areas of science and to integrate these with everyday applications.

#### **Biology I** **1 Credit**

Biology I is an in-depth look at all aspects of modern biological study. Students and teacher explore the themes and the basic understanding behind life on Earth. Topics include the origin of life, the chemistry of life, cells and cellular chemistry, DNA and genetics, with emphasis given to ecology (ecosystems and the balance within living systems), the evolution of life. Demonstrations, activities, notes, independent work, and laboratory experiments all reinforce the material. The class discusses current newsworthy biology topics in an effort to bring relevance of what is learned to the real world. Integrated into the course is the use of computers and technology.

#### **Biology II** **1 Credit**

Prerequisite: Biology I

Biology II is a survey of the five kingdoms of living organisms. The course begins with a detailed look at the simplest life forms, bacteria, which belong to Kingdom Monera. The class makes progress through Kingdom Protista, Kingdom Fungi, and Kingdom Plantae noting specific structural characteristics, reproductive strategies, survival strategies, and the roles of these organisms in their respective ecosystems. Students spend the majority of the second semester detailing the diversity in Kingdom Animalia. The dominant theme throughout the course is evolution and what forces have brought about the current diversity of life on Earth.

**Introduction to Chemistry and Physics**  
**1 Credit**

Prerequisite: Biology

This course is an intermediate course designed to explore the important concepts in the physical sciences, which impact modern daily life. This course will rely heavily on the scientific process, and how scientists use this to increase the understanding of the physical world. Additionally the nature of scientific knowledge will be explored through the study of the Chemistry and Physics. Chemistry topics will be atomic structure, formation of ionic and covalent compounds, molecular structure, and chemical equations including mass relations, solutions, and gases. Physics topics explored will be basic operating principles of gears, levers, pulleys, simple machines, and the effects of heat on solids, liquids, and gases.

**Chemistry**

**1 Credit**

Prerequisite: Biology; Enrollment in Algebra II

This course will present a clear and valid picture of the steps by which scientists operate. In so far as it is practical, the concepts and facts are introduced through experimentation. The experiments are performed by the student before class discussion of the ideas they illustrate. The notion that scientific ideas and facts arise from experimentation is emphasized. This course is also designed with the belief that the best way to present chemistry is through the presentation of fundamental principles rather than as a collection of facts. Emphasis is placed on understanding of these principles rather than rote learning or memorization.

**Physics**

**1 Credit**

Prerequisite: Chemistry, Algebra II. Enrollment in Pre-Calculus or instructor permission

Physics is an introduction into the field of physics with associated laboratory techniques. Specifically, the object of this course is to develop an understanding of the essential principles of physics, the student's problem-solving skills, and his ability to apply mathematical techniques to physical situations. The topics covered include mechanics, electricity and magnetism, optics and waves, and atomic physics.

**Environmental Issues**

**.5 Credit**

Pre-Requisite: Biology

This is a project based course that encourages critical thinking skills. Student will have the opportunity to expand their study of environmental science beyond the classroom environment. They will apply their understanding of ecological principles to address environmental issues in today's world. There will be an aquatic portion of this course that utilizes Lake Erie.

### **Geology**

**.5 Credit**

Pre-Requisite: Biology

This course covers the structure of the earth, geomorphology, mineralogy, constructive and destructive forces, volcanism, magma chemistry, tectonic deformation, seismicity, erosion and weathering, geologic hazards, and atmospheric structure.

### **Anatomy and Physiology**

**.5 Credit**

Anatomy and Physiology is the study of the structure and function of the human body including cells, tissues, and organs of the following systems: Integumentary, Skeletal, Muscular, Cardiovascular, Nervous system, and Special senses.

### **Organic Chemistry**

**.5 Credit**

Prerequisite: Teacher recommendation and successful completion of Chemistry

### **Forensics**

**.5 Credit**

Pre-Requisite: Biology and Chemistry

This course will explain the science used in forensic science techniques. It will describe specific types of evidence and the techniques used to collect and analyze evidence. This would be a lab based course, with numerous opportunities for students to learn hands-on skills in forensic science technique.

### **Robotics**

**.5 Credit**

Pre-Requisite: Biology and Chemistry

### **Astronomy**

**.5 Credit**

### **Sport Medicine**

**.5 credit**

**Prerequisite: Biology**

Sports Medicine is a one-year program that is designed for students interested in fields such as athletic training, physical therapy, medicine, fitness, physiology of exercise, kinesiology, nutrition, and other sports medicine related fields. The course includes study and hands-on application in prevention, treatment, and rehabilitation of sports injuries, taping and wrapping of injuries, first aid/CPR, emergency procedures, and sports medicine careers. The course requires additional time working with the athletic teams during after school and evening hours.

### **Animal Behavior**

**.5 Credit**

This class will explore the foundations of experience in experimental design, statistical methods, and record keeping while performing experiments on rats.

## **TECHNOLOGY AND THE ARTS**

### **Videography**

#### **.5 Credit**

This course will explore the entire spectryum of video creation, from pre-planning to post-production to the premire. It blends an emphasis on field work with an intensive exploration of editing software.

### **Photography**

#### **1 Credit**

This course is designed as an introduction to photography for students who have minimal or no photographic training. The one semester course takes an in-depth look at all fundamental aspects of the photographic process.

### **Graphic Design**

#### **1 Credit**

This course is built around the CorelDraw program as well as Photoshop. This course focuses on graphic design theory, visual design theory, and logo design.

### **Web Design**

#### **.5 Credit**

This course is designed to emerge the students in a full force design environment. The projects and clients are real. Students will advertise 'free' web/graphic design in local newspapers. They will also tailor their design to specific client needs. The class will also

be in charge of maintaining and updating the GRA website.

### **Introduction to Technology**

#### **8<sup>th</sup> grade course**

### **Fine Art**

#### **.5 Credit**

The courses in the arts will provide the student with a variety of media experiences including drawing, painting, sculpture, printmaking, design, and crafts. Each unit will begin with the basics and progress with the student's level of development. Each student will be directly involved in developing the necessary skills for creating with a medium through exploration of the potential and limitations of each. Individual and group critiques will assist students in clarifying personal interests and goals.

### **Ceramics**

#### **.5 Credit**

This Ceramics course enables students to make ceramic objects that are hand built and thrown on the wheel. Basic and advanced techniques such as coil, slab, and press molding are taught as students gain knowledge of materials, tolls,

### **Advanced Art and Portfolio creation**

#### **.5 credit**

#### **Teacher recommendation**

### **Music Theory**

#### **.5 Credit**

This course covers many genres of music including classical, jazz, big band, as well as half rock and modern era

music. The students will understand genre concepts and will serve to teach students the roots of music and how each preceding genre connects to and influences the next.

**Contemporary Performance  
.5 Credit**

Students will create and perform instrumental numbers.

**Introduction to Western Philosophy  
.5 Credit**

Using a major work of Western Artists, novels, drama, poetry, film, music, short stories, and art, the students and teacher will explore together the philosophical themes, currents, schools, upon which the works are constructed.

**INTERNATIONAL STUDENT  
PROGRAMS  
Placement based on International  
Advisor recommendations**

**ELL 1 Grammar 1  
1 Credit**

**ELL 1 Writing  
1 Credit**

**ELL 1 Reading and Vocabulary  
1 Credit**

**ELL 1 Listening and Speaking  
1 Credit**

**ELL 2 Reading and Vocabulary  
1 Credit**

**ELL 2 Grammar and Writing  
1 Credit**