

***DUNBAR HIGH  
SCHOOL***

**High School  
Program of Studies**

**ELECTIVE COURSES**

*April 2009*

# How to Use This Program of Studies

The Lee County High School Program of Studies has policies and procedures that are common to all Lee County High School Students. Also listed are descriptions of all classes that are available for general and exceptional education students in Lee County. Each high school will publish an addendum to this Lee County High School Program of Studies, which will outline policies and procedures unique to that individual school as well as classes offered at that school. Students should check the addendum first to see what classes are offered and then read the description in this document.

## HIGH SCHOOL ELECTIVE COURSE OFFERINGS

### Art

#### CERAMICS/POTTERY 1

**01023000**      **1 Credit**  
**01023005**      **.5 Credit**

These courses are designed for the student who wants to learn the medium of clay and the art of pottery. Students will learn the basic vocabulary, tools, and methods of producing good ceramic pieces. The student will also learn the various methods and processes of glazing and firing.

#### CERAMICS/POTTERY 2

**01023100**      **1 Credit**  
**01023105**      **.5 Credit**

These courses are designed for the advanced student in ceramics. The student will learn advanced designing, building, forming, and decorating techniques. Some knowledge of the used of ceramics and its history will be gained, as well as methods and criteria for judging good pottery.

#### CERAMICS/POTTERY 3

**01023200**      **1 Credit**  
**01023205**      **.5 Credit**

These courses are designed for the advanced student in ceramics. The student will learn advanced designing, building, forming, and decorating techniques. Some knowledge of the used of ceramics and its history will be gained, as well as methods and criteria for judging good pottery.

#### DRAW/PAINT 1

**01043200**      **1 Credit**  
**01043205**      **.5 Credit**

This course is designed to teach the student the basic fundamentals of drawing and composition. The student is exposed to a variety of drawing and painting media and learns techniques peculiar to these various media. The student will develop his/her ability to see and learn techniques to visually communicate what he/she sees to others through the drawing and painting media.

## **DRAW/PAINT 2**

**01043300**      **1 Credit**  
**01043305**      **.5 Credit**

This course is designed to further the fine arts student's development of abilities in drawing and painting. Included in this curriculum are continuing experiences in drawing media and techniques and an introduction to various painting media such as opaque and transparent watercolor.

## **DRAWING 1 - DRAW/PAINT 3**

**01043400**      **1 Credit**  
**01043405**      **.5 Credit**

The purpose of this course is to enable students to develop basic perceptual, observational, and compositional skills necessary to communicate a range of subject matter, symbols, ideas, and concepts using knowledge of drawing media, processes, and techniques.

## **DRAWING AND PAINTING 3**

**01044000**      **1 Credit**

The purpose of this course is to enable students to develop advanced perceptual, observational, and compositional skills necessary to communicate a range of subject matter, symbols, ideas, and concepts using knowledge of drawing and painting media, processes, and techniques.

# **Business and Information Technology**

## **OJT - BUSINESS COOPERATIVE EDUCATION**

**82004100**      **Multiple Credit**

This method of instruction provides job training for clerical, secretarial, accounting and business administration occupational areas. The program must be taken in conjunction with an advanced business education course and is supervised by the Business Cooperative teacher. Students must provide their own transportation to and from work.

## **OJT - BUSINESS COOPERATIVE EDUCATION ORGANIZATION AND MANAGEMENT**

**82004200**      **1 Credit**

This course provides Business Cooperative Education students with a common class that can be used to reinforce and provide additional competencies in their selected Business Technology Education Program. Curriculum may include maintaining job related forms and instruction in subjects related to the specific job that the student is performing.

## **NETWORKING I**

**82070200**      **1 Credit**

This course is designed to develop competencies needed for employment in network support positions. The content includes instruction in computer literacy, basic hardware configuration, hardware and software troubleshooting, operating systems, and computer networking.

## **NETWORKING 2**

**82070300**      **1 Credit**

This course continues the study of network support services. The content includes troubleshooting and diagnostic techniques; network hardware devices, topographies, and standards; and e-mail and Internet activities. After successful completion of Networking II and III, students will have met Occupational Completion Point - Data Code D, Network Support Specialist - DOT Code 031.262-010.

### **NETWORKING 3-INFRASTRUCTURE**

**82070400**                    **1 Credit**

This course continues the study of network support services. The content includes on-site and remote end user support and assistance; network transmission media; e-mail options and functions; and network administration tasks.

### **NETWORKING 4-INFRASTRUCTURE**

**8207050**                    **1 Credit**

This course continues the study of network support services. The content includes installation of network server operating system and client software, network administration tasks, e-mail server software, network security and troubleshooting, installation and configuration of software applications on file servers, training of end users, and Internet/Intranet publishing.

### **NETWORKING 5**

**82070600**                    **1 Credit**

This course continues the study of network support services. The content includes wireless networking technologies, implementation, management and security.

### **NETWORKING 6**

**82070700**                    **1 Credit**

This course continues the study of network support services. The content includes network security.

### **WEB DESIGN I**

**82071100**                    **1 Credit**

This course is designed to provide basic overview of the Internet, Intranet, and WWW. The content includes operating systems; basic HTML Commands; navigation of the Internet, Intranet, and Web; and Web page design.

### **WEB DESIGN 2**

**82071200**                    **1 Credit**

This course provides advanced concepts for Internet, Intranet, and Web design. The content includes Internet/Intranet tools, Web site promotion, advanced HTML Commands, advanced page design, and multimedia applications.

### **WEB DESIGN 3**

**82071300**                    **1 Credit**

This course provides advanced concepts in design, implementation, and maintenance of an effective WWW site. Topics include programming on the WWW and network configuration.

### **WEB DESIGN 4**

**82071400**                    **1 Credit**

This course provides advanced concepts in design, implementation, and maintenance of an effective WWW site. Topics project management of Internet/Intranet/Web sites.

### **WEB DESIGN 5**

**82071500**                    **1 Credit**

This course is designed to present an overview of e-commerce, introduce scripting and increase proficiency in audiovisual techniques.

## **WEB DESIGN 6**

**82071600**            **1 Credit**

With the completion of this course the student will be able to plan, design, implement and promote a business web site using both individual and team talents. Students will demonstrate proficiency with industry standard software.

## **PC SUPPORT I**

**82072100**            **1 Credit**

This course is designed to develop entry-level skills for PC support services. Emphasis is placed on developing an understanding of various computer software applications and computer hardware.

## **PC SUPPORT 2**

**82072200**            **1 Credit**

This course continues the development of basic entry level skills for PC support services. The content includes software applications and operating systems, electronic communication via the Internet, and an introduction to computer networking.

## **PC SUPPORT 3**

**82072300**            **1 Credit**

This course continues the study of PC support services and is designed to develop advanced skills for employment. The content includes advanced software applications, inter-relationships among major components of networks, hardware installation, and selection of electronic communications software and hardware.

## **PC SUPPORT 4**

**82072400**            **1 Credit**

This course continues the development of advanced skills for entry-level employment in PC support services positions. The content includes utilization of advanced software/system features and programs, integration techniques to enhance projects, network administration, components of Web pages.

## **PC SUPPORT 5**

**82072500**            **1 Credit**

This course continues the development of advanced skills for entry –level employment in PC support services positions. The content includes utilization of advanced software/system features and programs, integration techniques to enhance projects, network administration, components of Web pages, and preventative hardware maintenance.

## **NETWORKING 2 – ADMINISTRATION**

**82074410**            **1 Credit**

This course is designed to prepare students for employment as a Information Technology Assistant, Computer Support Assistant, Network Support Technician, Systems Administrator, Systems Engineer, Wireless Network Administrator, and Data Communications Analyst.

## **NETWORKING 3 – ADMINISTRATION**

**82074420**            **1 Credit**

This course continues the study of network support services. The content includes the planning, implementation, and management of server and client operating systems in a networking environment.

## **NETWORKING 4 – ADMINISTRATION**

**82074430**            **1 Credit**

This course continues the study of network support services. The content includes the planning, implementation, and management of server and client operating systems in a networking environment.

## **COMPUTERS FOR COLLEGE AND CAREERS**

**82090200-300**        **1 Credit**

Instruction is designed to enable students to demonstrate minimum proficiency in correct keyboard techniques, to use the computer and other selected keyboard equipment as practical tools in everyday living situations, and to perform selected generic skills used in general business procedures.

## **DIGITAL DESIGN I**

**82095100**            **1 Credit**

This course is designed to develop basic entry-level skills required for careers in the digital publishing industry. The content includes computer skills; digital publishing concepts and operations, layout, design, and measurement activities; decision-making activities, and digital imaging.

## **DIGITAL DESIGN 2**

**82095200**            **1 Credit**

This course continues development of basic entry-level skills for careers in the digital publishing industry. The content includes computer skills; digital publishing operations; layout, design, measurement activities; decision-making activities; and digital imaging. After successful completion of Digital Publishing I and II, students will have met Occupational Completion Point - Data Code C, Desktop Publisher - DOT Code 979.382-026.

## **DIVERSIFIED CAREER TECHNOLOGY - OJT**

**83004100**            **Multiple Credits**

DCT Job Training provides placement based on the student's occupational objective, the development and evaluation of the student's occupational skills, and employment correlated with related classroom instruction. Students must provide their own transportation to and from work.

## **COOPERATIVE DIVERSIFIED EDUCATION**

**83004200**            **1 Credit**

The purpose of Cooperative Diversified Education (CDE) is to provide the student with competencies developed through paid, supervised on-the-job training related to instruction in a job preparatory program.

Supervised on-the-job training provides opportunities for selective placement based on the student's job preparatory program and the development and evaluation of occupational competencies. Job related classroom instruction must have been provided in a job preparatory program for a minimum of one semester prior to enrollment in the Cooperative Diversified Education Program (or the student must be presently enrolled in a job preparatory program.)

## **DIVERSIFIED CAREER TECHNOLOGY PRINCIPLES/APPLICATIONS**

**83030100-  
83030200**            **1 Credit each**

The Diversified Training Program provides for (a) utilizing resources directly related to the student's occupational area of employment, (b) occupational analysis, and (c) employability skills instruction. It is highly recommended that the student join Cooperative Education Clubs of Florida (C.E.C.F.). This is an integral part of the instruction program and the activities are a part of the curriculum.

# Communications

## SCREENPLAY WRITING

**\*10093400**

**1.0 Credit**

The purpose of this course is to enable students to develop writing skills for original screenplays and adaptations for television and film. Emphasis will be on examination of the tools of film and development of scripts for production in a high school television studio.

## TELEVISION PRODUCTION 1

**87721100**

**1 Credit**

The purpose of this program is to prepare students for initial employment as television production operators, (SOC 27-4031) television broadcast technicians, (SOC 27-4012) camera operator, (SOC 27-4031) all other professional/paraprofessional technicians, video recording engineers, audio recording engineers. The content should include, but is not be limited to, communication skills; leadership skills; human relations and employability skills; safe and efficient work practices; and preparation to assume responsibility for overall production of television studio activities including: scripts, lighting, filming and directing, electronic news gathering, and field production.

## TELEVISION PRODUCTION 2

**87721200**

**1 Credit**

The purpose of this program is to prepare students for initial employment as television production operators, (SOC 27-4031) television broadcast technicians, (SOC 27-4012) camera operator, (SOC 27-4031) all other professional/paraprofessional technicians, video recording engineers, audio recording engineers. The content should include, but is not be limited to, communication skills; leadership skills; human relations and employability skills; safe and efficient work practices; and preparation to assume responsibility for overall production of television studio activities including: scripts, lighting, filming and directing, electronic news gathering, and field production.

## TELEVISION PRODUCTION 3

**87721300**

**1 Credit**

The purpose of this program is to prepare students for initial employment as television production operators, (SOC 27-4031) television broadcast technicians, (SOC 27-4012) camera operator, (SOC 27-4031) all other professional/paraprofessional technicians, video recording engineers, audio recording engineers. The content should include, but is not be limited to, communication skills; leadership skills; human relations and employability skills; safe and efficient work practices; and preparation to assume responsibility for overall production of television studio activities including: scripts, lighting, filming and directing, electronic news gathering, and field production.

## TELEVISION PRODUCTION 4

**87721400**

**1 Credit**

The purpose of this program is to prepare students for initial employment as television production operators, (SOC 27-4031) television broadcast technicians, (SOC 27-4012) camera operator, (SOC 27-4031) all other professional/paraprofessional technicians, video recording engineers, audio recording engineers. The content should include, but is not be limited to, communication skills; leadership skills; human relations and employability skills; safe and efficient work practices; and preparation to assume responsibility for overall production of television studio activities including: scripts, lighting, filming and directing, electronic news gathering, and field production.

## **TELEVISION PRODUCTION 5**

**87721500**

**1 Credit**

The purpose of this program is to prepare students for initial employment as television production operators, (SOC 27-4031) television broadcast technicians, (SOC 27-4012) camera operator, (SOC 27-4031) all other professional/paraprofessional technicians, video recording engineers, audio recording engineers. The content should include, but is not be limited to, communication skills; leadership skills; human relations and employability skills; safe and efficient work practices; and preparation to assume responsibility for overall production of television studio activities including: scripts, lighting, filming and directing, electronic news gathering, and field production.

## **Drivers Education**

### **DRIVERS EDUCATION**

**19003100**

**.5 Credit**

This course includes classroom instruction and behind the wheel instruction plus observation time. The course stresses knowledge of traffic laws, signs and safe driving practices. It also includes a mandatory drug and alcohol component. Parental involvement is student driving at home is essential. Practice driving with parents is necessary for student improvement.

## **English Language Arts**

### **DEBATE 1**

**10073300**

**1 Credit**

These courses provide instruction in argumentation and problem solving. The content includes logical thinking, organization of facts, speaking skills, research skills related to debate topics, and participation in frequent debate situations.

### **JOURNALISM 1**

**10063000**

**.5 Credit**

**1006300Y**

**1 Credit**

The purpose of this course is to enable students to develop fundamental skills in the production of print or electronic journalistic media.

### **JOURNALISM 2**

**10063100**

**1 Credit**

The purpose of this course is to enable students to develop fundamental skills in the production of print or electronic journalistic media.

### **JOURNALISM 3**

**10063200**

**1 Credit**

The purpose of this course is to enable students to develop fundamental skills in the production of print or electronic journalistic media.

### **JOURNALISM 4**

**10063300**

**1 Credit**

The purpose of this course is to enable students to develop fundamental skills in the production of print or electronic journalistic media.

# Experiential Education

## EXECUTIVE INTERNSHIP 1

**05003000**                      **1 Credit**

The purpose of this course is to provide a practical introduction to the work environment through direct contact with professionals in the community.

## EXECUTIVE INTERNSHIP 2

**05003100**                      **1 Credit**

The purpose of this course is to supplement the existing curriculum by providing community internships. Students apply textbook learning, leadership skills, and understanding in challenging and creative professional areas.

## EXECUTIVE INTERNSHIP 3

**05003200**                      **1 Credit**

The purpose of this course is to further refine and apply technical skills and competencies for leadership within specific professional areas.

## EXECUTIVE INTERNSHIP 4

**05003300**                      **1 Credit**

The purpose of this course is to continue to provide students with an opportunity to apply technical skills and competencies to real-life career processes and settings.

# Foreign Language

## SPANISH 1

**07083400**                      **1 Credit**

The purpose of this course is to enable students to begin to acquire proficiency in Spanish through a linguistic, communicative, and cultural approach to language learning. Emphasis is placed on the development of listening, speaking, reading, and writing skills and on acquisition of the fundamentals of applied grammar. Cross-cultural understanding is fostered and real-life applications are emphasized throughout the course.

## SPANISH 2

**07083500**                      **1 Credit**

The purpose of this course is to enable students to enhance proficiency in Spanish through a linguistic, communicative, and cultural approach to language learning. There is continued emphasis on the development of listening, speaking, reading, and writing skills and on acquisition of the fundamentals of applied grammar. Cross-cultural understanding is fostered and real-life applications are emphasized throughout the course.

## SPANISH 3

**07083600**                      **1 Credit**

The purpose of this course is to enable students to enhance proficiency in Spanish through a linguistic, communicative, and cultural approach to language learning. There is continued emphasis on the development of listening, speaking, reading, and writing skills. Experiences with Spanish literature are broadened. Cross-cultural understanding is fostered and real-life applications are emphasized throughout the course.

## SPANISH 4

**07083700**            **1 Credit**

The purpose of this course is to enable students to enhance proficiency in Spanish through a linguistic, communicative, and cultural approach to language learning. There is continued emphasis on the development of listening, speaking, reading, and writing skills. Experiences with Spanish literature are broadened. Cross-cultural understanding is fostered and real-life applications are emphasized throughout the course.

## AP SPANISH LANGUAGE

**07084000**            **1 Credit**

The purpose of this course is to develop oral and written fluency in Spanish. The curriculum content is specified by the Advanced Placement Program.

## FRENCH 1

**07013200**            **1 Credit**

French I provides the student with a sound basis for learning contemporary French and increases student's awareness and understanding of the French-speaking world, its people and culture. Basic language skills are developed: listening comprehension, speaking, reading, and writing. Co-curricular field trips are offered as part of class study.

## FRENCH 2

**07013300**            **1 Credit**

Based upon the same goals as French I, this course aims to provide continuing practice in developing the same skills learned at the first-year level, while reviewing and expanding upon the structures and vocabulary. Co-curricular field trips are offered as part of class study

# Health

## HEALTH I - LIFE MANAGEMENT SKILLS

**08003000**            **.5 Credit**

This required course provides the student with opportunities to develop and enhance critical life management skills: communication skills, interpersonal and coping skills, nutrition and weight management, CPR, substance use and misuse, consumerism. The student with the above knowledge will be able to make sound decisions and take positive actions for a healthy and effective life.

## HEALTH OPPORTUNITIES

### THROUGH PHYSICAL EDUCATION (H.O.P.E.)

*(Required for students enrolling in 9<sup>th</sup> grade in 2007)*

**3026010**            **1 Credit**

This course provides the student with opportunities to develop and enhance critical life management skills: communication skills, interpersonal and coping skills, nutrition and weight management, CPR, substance use and misuse, consumerism. After acquiring the above knowledge, the student will be able to make sound decisions and take positive actions for a healthy and effective life.

## MARTIAL ARTS

**1502460**            **.5 credit**

The purpose of this course is to enable students to develop knowledge and skills in variety of non-combative self-defense activities and to maintain or improve health-related fitness.

# Mathematics

## AP CALCULUS AB Grade 12

**12023100**                      **1 Credit**  
**1202310G-IB**

The purpose of this course is to study algebraic and transcendental functions and the general theory and techniques of calculus.

## AP CALCULUS BC

**12023200**                      **1 Credit**  
**1202320G-IB**

The purpose of this course is to provide an extensive study of the general theory and techniques of calculus.

## PRECALCULUS

**12023400**                      **1 Credit**  
**1202340G**

The purpose of this course is to enable students to develop concepts and skills in advanced algebra, analytic geometry, and trigonometry.

## INTEGRATED MATH 3

**12073300**                      **1 Credit**

The purpose of this course, the final in a series of three, is to develop the advanced algebraic and geometric concepts and process that can be used to solve a variety of real-world and mathematical problems.

## LIBERAL ARTS MATH

**12083000**                      **1 Credit**

The purpose of this course is to enable students to strengthen algebraic and geometric concepts and skills necessary for further study of mathematics.

## MATHEMATICS FOR COLLEGE READINESS

**1200700**                      **1 Credit**

The purpose of this course is to strengthen the skill level of high school seniors who have completed Algebra I, II and Geometry and who wish to pursue credit generating mathematics courses at the college level.

# Music

## BAND 1

**13023000**                      **1 Credit**

The purpose of this course is to enable students to develop basic technical skills on wind or percussion instruments through the refinement and performance of high school band literature. Emphasis will be placed on the development of skills in interpretation of notation and expressive markings, individual and ensemble performance, and critical listening.

## **BAND 2**

### **13023100      1 Credit**

The purpose of this course is to enable students to develop intermediate-level technical skills on wind or percussion instruments through the refinement and performance of high school band literature. Emphasis will be placed on the development of skills in interpretation of notation and expressive markings, individual and ensemble performance, and critical listening.

## **BAND 3**

### **13023200      1 Credit**

The purpose of this course is to enable students to develop proficient technical skills on wind or percussion instruments through the refinement and performance of high school band literature. Emphasis will be placed on the development of skills in interpretation of notation and expressive markings, individual and ensemble performance, and critical listening.

## **BAND 4**

### **13023300      1 Credit**

The purpose of this course is to enable students to develop consistently proficient technical skills on wind or percussion instruments through the refinement and performance of high school band literature. Emphasis will be placed on the development of skills in interpretation of notation and expressive markings, individual and ensemble performance, critical listening, and aesthetic response.

## **BAND 5**

### **13023400      1 Credit**

The purpose of this course is to enable students to develop advanced technical skills on wind or percussion instruments through the refinement and performance of high school band literature. Emphasis will be placed on the development of skills in interpretation of notation and expressive markings, individual and ensemble performance, critical listening, and aesthetic response.

## **BAND 6**

### **13023500      1 Credit**

The purpose of this course is to enable students to develop independent, advanced technical skills on wind or percussion instruments through the refinement and performance of high school band literature. Emphasis will be placed on the development of in-depth skills in interpretation of notation and expressive markings, individual and ensemble performance, critical listening, and aesthetic response.

## **ORCHESTRA 1**

### **13023600      1 Credit**

The purpose of this course is to enable students to develop basic technical skills on string or other orchestral instruments through the refinement and performance of high school orchestra literature. Emphasis will be placed on the development of skills in interpretation of notation and expressive markings, individual and ensemble performance, and critical listening.

## **CHORUS 1**

### **13033000      1 Credit**

The purpose of this course is to enable students to develop basic individual and ensemble skills in choral performance through preparation of varied high school literature. Emphasis will be placed on healthy and expressive singing, accurate interpretation of notation, and development of critical and aesthetic response to music.

## **CHORUS 2**

### **13033100 1 Credit**

The purpose of this course is to enable students to develop intermediate-level individual and ensemble skills in choral performance through preparation of varied high school literature. Emphasis will be placed on healthy and expressive singing, accurate interpretation of notation, and development of critical and aesthetic response to music.

## **CHORUS 3**

### **13033200 1 Credit**

The purpose of this course is to enable students to develop proficient individual and ensemble skills in choral performance through preparation of varied high school literature. Emphasis will be placed on healthy and expressive singing, accurate interpretation of notation, and development of critical and aesthetic response to music.

## **CHORUS 4**

### **13033300 1 Credit**

The purpose of this course is to enable students to develop consistently proficient individual and ensemble skills in choral performance through preparation of varied high school literature. Emphasis will be placed on healthy and expressive singing, accurate interpretation of notation, and development of critical and aesthetic response to music.

## **VOCAL ENSEMBLE 1**

### **13034400 1 Credit**

The purpose of this course is to enable students to develop basic performance techniques in a small ensemble setting through the study of varied high school choral literature. Emphasis will be placed on vocal independence, expressiveness, and stylistic authenticity.

## **VOCAL ENSEMBLE 2**

### **13034500 1 Credit**

The purpose of this course is to enable students to develop intermediate-level performance techniques in a small ensemble setting through the study of varied high school choral literature. Emphasis will be placed on vocal independence, expressiveness, and stylistic authenticity.

## **VOCAL ENSEMBLE 3**

### **13034600 1 Credit**

The purpose of this course is to enable students to develop proficient performance techniques in a small ensemble setting through the study of varied high school choral literature. Emphasis will be placed on vocal independence, expressiveness, and stylistic authenticity.

## **VOCAL ENSEMBLE 4**

### **13034700 1 Credit**

The purpose of this course is to enable students to develop proficient performance techniques in a small ensemble setting through the study of varied high school choral literature. Emphasis will be placed on vocal independence, expressiveness, and stylistic authenticity.

# Physical Education

## ADAPTIVE PHYSICAL EDUCATION IEP or 504 PLAN

**15003000**

**.5 Credit**

The purpose of this course is to meet student needs identified in the Individualized Educational Plan (I.E.P.) or 504 Plan.

## INDIVIDUAL SPORTS FOR DISABLED

**\*15003100**

**.5 Credit**

The purpose of this course is to enable students to develop basic-level knowledge and skills in a variety of individual sports appropriate to their level of capability, and to maintain or improve health-related fitness.

## RECREATIONAL ACTIVITIES FOR DISABLED STUDENTS

**\*15003300**

**.5 Credit**

The purpose of this course is to enable students to develop basic-level knowledge and skills in a variety of recreational activities appropriate to their level of capability and to maintain or improve health-related fitness.

## PERSONAL FITNESS

**15013000**

**.5 Credit**

The purpose of this course is to (a) acquire knowledge of physical fitness concepts (b) understand the influence of lifestyle on health and fitness, and (c) begin to develop an optimal level of fitness.

## BEGINNING WEIGHT TRAINING

**15013400**

**.5 Credit**

The purpose of this course is to enable students to acquire basic knowledge and skills in weight training, improve muscular strength and endurance, and begin to enhance self-image.

## INTERMEDIATE WEIGHT TRAINING

**15013500**

**.5 Credit**

The purpose of this course is to enable students to develop intermediate-level knowledge and skills in weight training, further improve muscular strength and endurance, and further enhance self-image.

## ADVANCED WEIGHT TRAINING

**15013600**

**.5 Credit**

The purpose of this course is to enable students to develop advanced knowledge and skills in weight training, further improve muscular strength and endurance, and further enhance self-image.

## INDIVIDUAL AND DUAL SPORTS 1

**15024100**

**.5 Credit**

The purpose of this course is to enable students to develop knowledge and skills in specified individual and dual sports and to maintain or improve health-related fitness.

## INDIVIDUAL AND DUAL SPORTS 2

**15024200**

**.5 Credit**

The purpose of this course is to enable students to develop knowledge and skills in specified individual and dual sports and to maintain or improve health-related fitness.

### **INDIVIDUAL AND DUAL SPORTS 3**

**15024300 .5 Credit**

The purpose of this course is to enable students to develop knowledge and skills in specified individual and dual sports and to maintain or improve health-related fitness.

### **MARTIAL ARTS**

**1502460 .5 credit**

The purpose of this course is to enable students to develop knowledge and skills in variety of non-combative self-defense activities and to maintain or improve health-related fitness.

### **RECREATIONAL ACTIVITIES**

**15024700 .5 Credit**

The purpose of this course is to enable students to develop knowledge and skills in recreational activities and maintain or improve health-related fitness.

### **OUTDOOR EDUCATION**

**15024800 .5 Credit**

The purpose of this course is to enable students to acquire knowledge of outdoor education; develop skills in outdoor education activities, such as hiking, biking, orienteering, and water sports; and maintain or improve health-related fitness.

### **BASKETBALL**

**15033100 .5 Credit**

The purpose of this course is to enable students to develop knowledge and skills in basketball and to maintain or improve health-related fitness.

### **TEAM SPORTS 1**

**15033500 .5 Credit**

The purpose of this course is to enable students to acquire basic knowledge of team sports play, develop skills in specified team sports, and maintain or improve health-related fitness.

### **TEAM SPORTS 2**

**15033600 .5 Credit**

The purpose of this course is to enable students to develop knowledge of team sports play, develop skills in specified team sports, and maintain or improve health-related fitness.

### **BEGINNING VOLLEYBALL**

**15055000 .5 Credit**

The purpose of this course is to enable students to acquire basic knowledge and skills in volleyball and to maintain or improve health-related fitness.

### **INTERMEDIATE VOLLEYBALL**

**15055100 .5 Credit**

The purpose of this course is to enable students to develop intermediate-level knowledge and skills in volleyball and to maintain or improve health-related fitness.

### **HOPE – PHYSICAL EDUCATION VARIATION**

**15063200 1 Credit**

The purpose of this course is to develop and enhance healthy behaviors that influence lifestyle choices and student health and fitness.

# Science

## ADV PL BIOLOGY

**20003400**            **1 Credit**

Designed for the student who will major in science, become a premedical student, or who needs a background in biology, this course is equivalent to a one-year college survey course treating three main content categories: cellular and molecular organism, ecological and evolutionary. A knowledge of algebra and chemistry is required.

## ANATOMY PHYSIOLOGY HONORS

**20003600**            **1 Credit**

This course provides in-depth activities relating to the structures and functions of the components of the human body. The content will cover anatomical terms of all systems of the body. Extensive laboratory investigations are an important part of the course.

## AP ENVIRONMENTAL SCIENCE

**20013400**            **1 Credit**

Designed for the student who will major in science or who needs an in-depth background in environmental science, this course is equivalent to a one-year college survey course.

## ADV PL CHEMISTRY

**20033700**            **1 Credit**

This course is designed to be the equivalent of the general chemistry course taken during the first year of college. Experiments that involve individual observations of chemical substances and reactions, recording of data, and calculation and interpretation of results based on individually obtained quantitative data, will deal with the structure of matter, kinetic theory of gases, chemical equilibria, chemical kinetics, and the basic concepts of thermodynamics.

## BIOLOGY 2

**\*20003200**            **1 Credit**

The purpose of this course is to enable students to develop knowledge of biology by expanding and applying biological concepts introduced in 2000310 - Biology I or 2000320 - Biology I Honors. The content should include, but not be limited to, the following: implementation of scientific habits of mind, application of scientific knowledge, methodology, and historical context to solve problems, use of laboratory technologies, terminology, properties of life, metabolic pathways, chemical basis of heredity and biotechnology, unity and diversity, change mechanisms, morphological differences, relationships among individuals, populations, communities, and ecosystems, and connections between biology, technology, society, and the environment.

## **EARTH SPACE SCIENCE HONORS**

**\*20013200**

**1 Credit**

The purpose of this course is to develop and apply concepts basic to the Earth, its materials, processes, history, and environment in space. The content should include, but not be limited to, the following: the nature of science, the universe and the solar system, the developmental cycle of stars, the earth-moon system, space exploration, formation of igneous, sedimentary, and metamorphic rocks and identification and classification of rocks and minerals, geological divisions of the earth, formation of land forms and basic mountain types, fundamentals of plate tectonics, formation of rivers and water systems, glaciers, hydrologic cycle, physical oceanography, meteorology, including development of hazardous weather, weather mapping, weather systems, frontal development, and satellite imagery, types of soils and erosion, and renewable and nonrenewable energy resources.

## **PHYSICS 1 HONORS**

**20033900**

**1 Credit**

This is a lab-centered course that emphasizes conceptual understanding and critical thinking as encountered in investigations into the physical properties and characteristics of matter, energy, and resultant forces.

## **ADV PL PHYSICS B**

**\*20034200**

**1 Credit**

This course is designed for the student who will major in life science, become a premedical student, or who needs background in physics. It is equivalent to a one-year college survey course treating all major topics, including: classical mechanics, electricity and magnetism and waves, heat and kinetic theory and modern concepts. A knowledge of algebra and trigonometry is essential.

## **ADV PL PHYSICS C**

**\*20034300**

**1 Credit**

This course is designed for the student who will major in life science, become a premedical or engineering student, or someone who needs a thorough physics background. This course is equivalent to a one-year undergraduate college course covering such topics as mechanics, electricity and magnetism, optics and wave theory, thermodynamics and kinetic theory. A knowledge of Algebra II and trigonometry and the ability to use them is necessary.

**1700320**

**1 Credit**

## **CMS RESEARCH**

The course is a laboratory intensive science course in which students will apply what they are learning in the planning, implementation, and analysis of experiments as determined by their concurrent science course. The course is designed to supplement advanced placement science courses by providing the laboratory time, resources and activities recommended by the College Board. This course is strongly recommended for students taking an AP science course.

# **Social Studies**

## **ADVANCED PLACEMENT AMERICAN HISTORY**

**21003300**

**1 Credit**

The purpose of Placement American History Honors is to provide students with the opportunity to develop the analytical skills and factual knowledge necessary to deal critically with problems in American historic development. This is done by focusing on persistent themes and change in history and by applying historical reasoning to seek solutions to contemporary problems.

## **AFRICAN AMERICAN HISTORY**

**21003400 .5 Credit**

Students understand the development of African American heritage within the context of a broad historical focus. Students examine connections to the past to prepare for the future as participating members of a democratic society.

## **EAST & WEST HERITAGE**

**21003700 .5 Credit**

This course introduces the conceptual tools and skills necessary to investigate the birth and development of ancient civilizations throughout the world, the emergence of modern civilizations, and transitions leading to Renaissance. The theme-based course covers the time frame from prehistory to the Renaissance.

## **EASTERN AND WESTERN HERITAGE HONORS**

**21004600 1 Credit**

The purpose of this course is to enable students to understand the development of the world community within the context of history by examining connections to the past to prepare for the future as participating members of a global society. Students will use knowledge pertaining to history, geography, economics, political processes, religion, ethics, diverse cultures, and humanities to solve problems in academic, civic, social, and employment settings.

## **VOLUNTARY SCHOOL/COMMUNITY SERVICES**

**21043300 .5 Credit**

Students engage in activities that help them develop an appreciation for the concept of service to the community. In this issues approach, students are expected to examine topics, make informed judgments and apply problem-solving skills within a context of how they might best serve their local community.

## **ADV PL AMERICAN GOVERNMENT**

**21064200 .5 Credit**

The purpose of Advanced Placement American Government and Politics is to give students a critical perspective on government and politics in the United States. This course involves both the study of general concepts used to interpret American politics and the analysis of specific case studies.

## **PSYCHOLOGY 1**

**21073000 .5 Credit**

The purpose of these courses is to provide students with the opportunity to acquire an understanding of human behavior, behavioral interaction, and the progressive development of individuals. Topics will include an overview of the theories and methods of study employed by psychologists, human growth and development, self-concept development, intelligence, conditioning and learning as well as theories of behavior.

## **PSYCHOLOGY 2**

**21073100 .5 Credit**

Through the study of psychology, students acquire an understanding of and an appreciation for human behavior, behavior interaction, and the progressive development of individuals. This will better prepare them to understand their own behavior and the behavior of others.

## **ADVANCED PLACEMENT PSYCHOLOGY**

**21073500 1 Credit**

Through the study of psychology, students acquire an understanding of and an appreciation for human behavior, behavioral interaction, and the progressive development of individuals. This will better prepare them to understand their own behavior and the behavior of others.

## **SOCIOLOGY**

**21083000 .5 Credit**

The purpose of Sociology is to provide students with the opportunity to acquire an understanding of group interaction and its impact on individuals.

## **ADVANCED PLACEMENT WORLD HISTORY**

**21094200 1 Credit**

Students understand the development of Europe within the context of history by examining connections to the past in order to prepare for the future as participating members of a global community. Students use knowledge pertaining to history, geography, economics, political processes, religion, ethics, diverse cultures and humanities to solve problems in academic, civic, social and employment settings.

## **ADV PL EUROPEAN HISTORY**

**\*21093800 1 Credit**

The purpose of Advanced Placement European History is to provide students the opportunity to develop the analytic skills and factual knowledge necessary to deal critically with the problems, content and materials of European historic development.

# **RESEARCH**

## **RESEARCH 1**

**17003000 1 Credit**

The purpose of this course is to enable students to develop fundamental knowledge of the steps in the research process.

## **RESEARCH 2**

**17003100 1 Credit**

The purpose of this course is to enable students to develop basic knowledge and skills in the research process with emphasis on determining and refining research questions.

## **RESEARCH 3**

**17003200 1 Credit**

The purpose of this course is to enable students to develop intermediate-level knowledge and skills in the research process with emphasis on locating and using sources of information related to research questions.

## **RESEARCH 4**

**17003300 1 Credit**

The purpose of this course is to enable students to develop proficient knowledge and skills in the research process with emphasis on appropriate research design.

## **RESEARCH 5**

**17003400 1 Credit**

The purpose of this course is to enable students to develop advanced knowledge and skills in the research process with emphasis on data collection and analysis.

# ROTC - MILITARY SCIENCE

## LEADERSHIP EDUCATION 1

**18013000**      **1 Credit**

The purpose of this course is to enable students to develop knowledge of the history, customs, traditions, and purpose of the Army JROTC. The course includes development of basic leadership skills including leadership principles, values, and attributes. Students should master appreciation for diversity. Active learning strategies are integrated throughout the course with an emphasis on writing skills and oral communication techniques. Financial planning as well as physical fitness, diet, nutrition, healthy lifestyles, awareness of substance abuse and prevention, and basic first aid measures are included. An overview of the globe and geography and basic map reading skills are incorporated. A study of the United States Constitution, Bill of Rights, responsibilities of United States citizens, and the federal justice system is also provided.

## LEADERSHIP EDUCATION 2

**18013100**      **1 Credit**

The purpose of this course is to enable students to expand on skills taught in Leadership Education and Training I. This course introduces the concepts of equal opportunity, fair treatment of minorities, and prevention of sexual harassment. It provides instruction on leadership skills, leadership theories, as well as the basic principles of management. It provides self assessments that help students determine their skill sets and opportunities to teach using accepted principles and methods of instruction. It emphasizes community projects to assist in drug prevention efforts. It also includes dietary guidelines, fitness, and map-reading and orienteering skills. It discusses the significant events that helped shape and develop the Constitution and government and teaches the role of political parties in the election process.

## LEADERSHIP EDUCATION 3

**18013200**      **1 Credit**

The purpose of this course is to enable students to expand on the skills taught in Leadership Education and Training II. This course allows cadets to investigate the interrelationships of the services while they continue to build their leadership development and decision-making skills. It includes negotiation skills and management principles. It emphasizes staff procedures and opportunities to handle various leadership situations as well as prevent violence and manage anger. The research, identification, planning, and execution of service learning activities are included. This course gives cadets the opportunity to apply basic concepts of strategies for career exploration and planning. It teaches how to create a career portfolio and plan for college or work. Financial management principles are studied. Skills for orienteering and/or land navigation are developed. The course also includes studies in the federal judicial system and how historical events have shaped social systems.

## LEADERSHIP EDUCATION 4

**18013300**      **1 Credit**

The purpose of this course is to enable students to expand on the skills taught in Leadership Education and Training III. This course focuses on creating a positive leadership situation, negotiating, decision making, problem solving, team development, project management, and mentoring. Students will demonstrate leadership potential in an assigned command or staff position within the cadet battalion organizational structure. The course teaches cadets how to use emotional intelligence in leadership situations as well as how to maintain a positive attitude. It provides instruction on etiquette, daily planning, financial planning, and careers. It includes requirements for the practical application of leadership duties. It emphasizes physical fitness through healthy individual and group competition. The interactions between groups of people and how they affect the area's cultural, economic, and political characteristics are discussed. Concepts of democracy and freedom and their influence on local governments are also included.

# Academy for Technology Excellence

Empowering 21st Century Students for Success!

Students completing any or all of the components of the Academy for Technology Excellence program will have far greater fluency with technology. Students will enhance their performance in school with specific productivity software, and with the critical thinking skills that embody so much technical work that they must do. Students exiting these programs will be ready to advance to the next level of formal education or directly enter the workforce in a dynamic, high-skilled, high-paying occupation. These occupations include but are not limited to technical specialist, systems engineer, PC support technician, office end-user specialists, web designer, software developer, database administrator and security specialists.

## APPLICATION PROCESS

Admission into the Academy of Technology Excellence is through a lottery process from the Office of School Choice. Every student that wants to be enrolled in the Academy needs to be sure to fill out an application and submit the application to the guidance counselors at Dunbar High School. All students will have equal opportunity to enter the program. Once you are enrolled in the Academy you will remain enrolled in the program until you graduate, unless a request has been made to exit the Academy.

## THE IMMERSION TRACK

The Academy for Technology Excellence is dedicated to providing a rigorous and deliberate track as a part of the Information Technology computer science fields. As a response, we offer a complete immersion track of courses that allow students to have the potential to earn up to 12 industry standard, IT computer certifications. 1<sup>st</sup> and 2<sup>nd</sup> year (Tier 1 & Tier 2) Academy students will have a 2 period block in the Academy technology labs. 3<sup>rd</sup> and 4<sup>th</sup> (Tier 3 & Tier 4) year students will have a 3 period block in the Academy technology labs.

<b>1st year – TIER 1</b>	COMPTIA A+ Certification Microsoft Office Specialist Certifications (Word / PowerPoint / Excel)
<b>2nd year – TIER 2</b>	Cisco Certified Network Administrator (CCNA) COMPTIA Network+ Certification Microsoft Office Specialist Certification (Access)
<b>3rd year – TIER 3</b>	Microsoft Certified Professional (MCP) Microsoft Certified Desktop Service Technician (MCDST) Microsoft Certified Systems Administrator (MCSA)
<b>4th year – TIER 4</b>	Microsoft Certified System Engineer (MCSE) Microsoft Office Specialist Certification (Outlook)

### BENEFITS OF THE IMMERSION TRACK:

- Acquire up to 12 nationally and internationally recognized IT computer certifications
- Free Certification Testing
- Earn Honors weighted credit and **Dual Enrollment credit**
- Meets the requirements for the **Florida Gold Seal Vocational Scholarship**
- Seniors in the Immersion program receive a laptop for use for the entire school year
- Have an earning potential ranging from \$35,000-\$50,000 annually





## ACADEMY FOR TECHNOLOGY EXCELLENCE: IMMERSION TRACK COURSES

### **TIER 1 – IMMERSION TRACK COMPUTER HARDWARE & OPERATING SYSTEMS**

COMPTIA A+ Certified Technician  
Microsoft Office Specialist Training  
(Word / PowerPoint / Excel)

**Grade 9 (No prerequisite required)**

**82072100** **2 Credits**  
**000** **(requires a 2 period block)**

This courses primary goal is to focus on course material that will enable students to prepare students to become a COMPTIA A+ Certified Technician. This coursework allow students to understand the parts and applications of a basic computer. Students work on PC hardware, configure general PC operating system software, understand cabling networks, and develop end user office support. Students will to perform tasks, such as computer hardware installation, configuration, diagnosing, preventive maintenance and basic networking. Plus, this course will enable students to learn and use Microsoft Office productivity tools to produce professional documents, create spreadsheets, and build presentations. This course will prepare the students for the Microsoft Office Specialist certification tests (Word/Excel/PowerPoint).

### **TIER 2 – IMMERSION TRACK COMPUTER NETWORKING**

COMPTIA Network+ Certified Technician  
Cisco Certified Network Associate (CCNA)  
Microsoft Office Specialist Training (Access)

**Grade 10 (Prerequisite BST/MOS/A+)**

**82070200** **2 Credits**  
**000** **(requires a 2 period block)**

This courses primary goal is to focus on course material that will enable students to become COMPTIA Network+ Certified and Cisco Certified Network Associates. This coursework allow students to configure different kinds of computer-based networks. The Network+ certification indicates a basic knowledge of the fundamentals of computer networking. The CCNA certification (Cisco Certified Network Associate) indicates a foundation in and apprentice knowledge of networking. CCNA certified professionals can install, configure, and operate LAN, WAN, and dial access services for small networks (100 nodes or fewer), including but not limited to use of these protocols: IP, IGRP, Serial, Frame Relay, IP RIP, VLANs, RIP, Ethernet, Access Lists. Plus, this course will prepare the students for the Microsoft Office Specialist certification database certification, Access.

### **TIER 3 – IMMERSION TRACK DESKTOP SUPPORT & SYSTEMS ADMINISTRATOR**

Microsoft Certified Professional (MCP)  
Microsoft Certified Desktop Support Technician (MCDST)  
Microsoft Certified Systems Administrator (MCSA)

**Grade 11 (Prerequisite BST/MOS/A+)**

**82070400** **(weighted) 3**  
**Credits**  
**000** **(requires a 3 period**  
**block)**

This courses primary goal is to focus on course material that will enable students to become a Microsoft Certified Professional (MCP), Microsoft Certified Desktop Support Technician (MCDST) and a Microsoft Certified Systems Administrator (MCSA). A MCDST learns how to successfully troubleshoot desktop environments running on the Microsoft Windows operating system. The Microsoft Certified Systems Administrator (MCSA) certification will learn the advance skills to successfully manage and troubleshoot system environments running on the Microsoft Windows operating system.

### **TIER 4 – IMMERSION TRACK SYSTEMS ENGINEER**

Microsoft Certified Systems Engineer (MCSE)  
Plus, Microsoft Office Specialist Training (Outlook)

**Grade 12 (Prerequisite MCSA)**

**82074420** **(weighted) 3**  
**Credits**  
**000** **(requires a 3 period**  
**block)**

This courses primary goal is to focus on course material that will enable students to become a Microsoft Certified Systems Engineers (MCSE). The Microsoft Certified Systems Engineer (MCSE) certification enables students to prove their expertise in designing and implementing the infrastructure for business solutions based on the Microsoft Windows 2000 platform and Microsoft Windows Server System. This part of the course will also prepare students for the Microsoft Office Specialist certification test in Outlook.

\*Note: Students not enrolled in the Academy for Technology Excellence Immersion Track may take courses within the Track but must have the supporting prerequisites prior to enrollment in respective courses.



The Academy also offers other Elective courses not part of the Immersion Track. Students who wish to take these courses do not need to fill out an application for the Academy for Technology Excellence but they do need to request these courses through their guidance counselors. Students not enrolled in the Academy for Technology Excellence Immersion Track may take courses within the Track but must have the supporting prerequisites prior to enrollment in respective courses.

**Computing for College and Careers**  
**Microsoft Office Specialist Training Emphasis**  
(Word / Excel / PowerPoint / Outlook)  
Grades 9-12  
(No prerequisite required)

**8209020      1 Credit**

This course will enable students to learn and use Microsoft Office productivity tools to produce professional documents, create spreadsheets, build presentations, send and receive email, add attachments, make appointments in the calendar, and manage the user interface. Students are shown how to integrate these software programs to be successful in college and the workplace. Students will also learn employability, life, and career skills and how those skills are applied in the workplace. Emphasis is placed on preparation for the Microsoft Office Specialist certification tests (Word / Excel / PowerPoint / Outlook). This course is the foundation course for the Florida Gold Seal Vocational Scholars Award.

**Operating Systems**  
Grades 10-12  
(Prerequisite BST/MOS/A+)

**82070300, 82070400      1 Credit**  
**82070500, 82070600**

This course will enable students to learn, use, and investigate operating systems such as Windows XP and Windows Vista. The operating systems training classes focus on the inner workings of the various operating systems through hands-on investigation of resources.

**Microsoft Certified Desktop Support Technician (MCDST)**  
Microsoft Office Specialist Training (Outlook)  
Grades 10-12  
(Prerequisite BST/MOS/A+)

**82070300, 82070400      2 Credits**  
**82070500, 82070600      (requires a 2 period block)**

This course will enable students to learn and prepare for the Microsoft Certified Desktop Support Technician (MCDST) certification. A desktop support technician learns how to successfully troubleshoot desktop environments running on the Microsoft Windows operating system. Plus, students will be able to learn how to send and receive email, add attachments, make appointments in the calendar, and manage the user interface. This part of the course will also prepare students for the Microsoft Office Specialist certification test in Outlook.

**Database Administrator (DBA/SQL)**  
Microsoft Office Specialist Training (Access)  
Grades 10-12  
(Prerequisite BST/MOS/A+)

**82060400      1 Credits**  
**000**

This course will enable students to learn and prepare for the Microsoft Certified Database Administrator (MCDBA) certification. Students will learn how to design and develop a database using Microsoft Access. This part of the course will also prepare students for the Microsoft Office Specialist certification test in Access. Then students will learn how to design, implement, and manage a Microsoft SQL Server.



# DUNBAR HIGH SCHOOL

## Center for Math and Science

The Center for Math and Science (CMS) is a “school within a school” housed on the campus at Dunbar High School. Students who successfully complete this program will earn a *diploma of distinction* and will be well prepared to enter and excel in varying levels of collegiate math and science programs

The mission of the Center for Math and Science at Dunbar High School is to challenge ambitious students using a rigorous math and science program focused on original research and real-world problem solving. This program does more than offer the usual selection of upper level courses. Students have opportunities to conduct research, communicate with math and science experts in the community, and showcase their work at public forums. This is in line with the program goal to help students be well-rounded and exhibit “angularity” (when student pursues a specific avenue of study in depth), both of which are properties many colleges and universities look for in prospective students.

CMS has two levels of distinction that correspond to the intensity of the math and science courses they take. The major track emphasizes participation in AP Math/Science courses while the minor track does not require participation in the AP Math/Science Courses. For both tracks, the students are required to take minimum of 4 credits in math and 4 credits in science in addition to some extracurricular requirements that will help with the student’s angularity.

We have organized different science course sequences to meet the needs of students based on their career interests. These are adjustable to meet the students’ needs.

Focus	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>
Biology	Biology Honors	Chem Honors or AP Chem*	Biology II Physics Honors or AP Phys B* <i>AP Chem</i>	AP Biology
Physiology	Biology Honors	Chem Honors or AP Chem*	Biology II or Zoology or Physics Honors or AP Phys B*	Anatomy and Physiology
Physics	Biology Honors	Chem Honors or AP Chem	Physics Honors or AP Phys B*	AP Physics B or AP Physics C
Environmental	Biology Honors	Chem Honors or AP Chem*	Earth Science or Zoology Physics Honors	AP Environmental
<ul style="list-style-type: none"> <li>• CMS students are required to take Research III in their 10<sup>th</sup> to 12<sup>th</sup> grade year;</li> <li>• Any student can take more than one science course not on the recommendations above, as long as they have the appropriate prerequisites for the course. FCAT scores will determine placement in many courses.</li> </ul>				
<p>* AP Chemistry and AP Physics B can be taken after taking the respective honors course to increase success in AP course.</p>				

# Center for Math and Science

Careers associated with the different science foci			
Bio Focus	Physiology Focus	Physics Focus	Environmental
MD Physician's Assistant RN Veterinarian PT/OT Lab technology Pharmacist Respiratory Therapist Forensics Health and safety engineers Biomedical engineers	LPN C.N.A. Physical Therapy Assist. Sonography/Radiology Forensics EMT Exercise Specialist/Personal trainer Surgical scrub tech Medical Assistant Forensics	Engineer PT/OT Architect Forensics Aerospace eng Project engineer Chemical engineer Electrical engineer Materials engineers Forensics Mechanical eng Nuclear engineers Biomedical eng Petroleum eng* Health and safety Engineers	Environmental Eng Environmental Sci Restoration Spec Construction eng Ecological consultant Agricultural eng* Arborist Forensics Marine engineers Mining and geolo-gical. Engineers Landscape Design
Math Centered Careers			
Advanced Math Courses taken			
Professor; Engineering – Civil, Industrial, Software design, and Systems; Biostatistician; Mathematical Statistician; Business like Chief Financial Officer, Chairman, CPA, Consultant, Science - Research Associate, Engineer Scientist, Astronaut Systems Analyst, Imaging Scientist Aerospace Mathematician; Actuarial Analyst, Consulting Actuary, Economist, Marketing Manager, Budget Analyst, , Electronics Commerce Specialist, CPA, Accounting, Java developer, Technology or Computer Science Jobs,			

There are many careers for which science and math education is vital. Please refer to the following resources to find more.

Resources: (Accessed January 10, 2006)

U.S. Department of Labor Bureau of Labor and Statistics- Occupational Handbook Engineers

<http://stats.bls.gov/oco/ocos027.htm>

Math Association of America Career Profiles <http://www.maa.org/careers/index.html>

Mathematical Sciences Career Information <http://www.ams.org/careers/>

Careers in Mathematics <http://www.sbuniv.edu/~khopkins/mathdo.html>

U.S. Department of Labor Bureau of Labor and Statistics – Occupational Handbook Mathematicians

<http://stats.bls.gov/oco/ocos043.htm>

Careers in Math Theme Page [http://www.cln.org/themes/careers\\_math.html](http://www.cln.org/themes/careers_math.html)

Careers in Science and Engineering Planning Guide <http://www.nap.edu/readingroom/books/careers/contents.html>

Cool Careers in Science [http://www.pbs.org/safarchive/5\\_cool/53\\_career.html](http://www.pbs.org/safarchive/5_cool/53_career.html)

Careers in Earth Science <http://kids.earth.nasa.gov/archive/career/index.html>

Science Careers.org <http://aaas.sciencecareers.org/js.php>

Careers in marine science – ocean link <http://oceanlink.island.net/career/career2.html>

Marine careers <http://www.marinecareers.net/>

MadSciFAQ: Careers in Science <http://www.madsci.org/FAQs/careers.html>

Alternative Careers in Science(Cynthia Robbins-Roth) [http://biotech.about.com/library/books/bl\\_altcareers.htm](http://biotech.about.com/library/books/bl_altcareers.htm)

Careers in Forensic Science <http://www.forensicdna.com/careers.htm>

Careers in Life Science <http://www.the-aps.org/education/k-12misc/careers.htm>

AAAS Center for Careers <http://www.aaas.org/programs/centers/careers/>

APA Careers in Psychology <http://www.apa.org/science/careers.html>

Science Careers Web <http://www.sciencecareersweb.net/index.htm>

Careers in Microbiology <http://www.microbe.org/careers/careers.asp>

Careers in Science and Engineering <http://www.seed.slb.com/en/scictr/career/index.htm>

Food Safety Careers <http://www.cfsan.fda.gov/~dms/careers.html>

National Academies Career Guides <http://nationalacademies.org/careerguides.html>

# DUNBAR HIGH SCHOOL

## Center for Math and Science

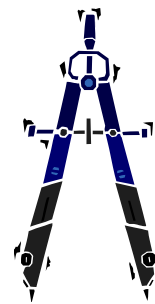
- Do your future plans include a career in engineering, medicine, biotechnology or other career field requiring strong math or science backgrounds?
- Do you like to invent or design things?
- Do you enjoy solving problems?

If you answered YES to any of these questions, the Center for Math and Science is designed to meet your college and career prep needs during high school.

The Center for Math and Science is a “school within a school” housed on the campus at Dunbar High School. Our students will graduate prepared to succeed in the math or science endeavor of their choosing. Our minor distinction students will graduate with the academic background desirable for 2 to 4 year math/science career training and/or college degree programs. Our major distinction students will graduate with the academic background sought after by recruiters from leading universities, including MIT, Stanford, Cornell, Georgia Tech, North Carolina State, Duke, and the University of Florida. The rigorous programs are designed to help students get accepted into their desired colleges/training programs AND succeed. After researching the admission requirements of these and other respected schools, the Center for Math and Science graduation requirements are as follows:

- 4 English credits
- 4-6 Sciences\* credits
- 4-6 Math\* credits
- 3 Social Studies credits
- 2 Foreign Language credits
- 1 Research and Analysis credit
- 1 Fine Arts credit
- 1 PE/Health credit
- Electives to earn minimum of 24 credits for graduation

\* Students are required to take AP Math and Science courses during their junior and senior years for the Major Distinction only.



ATE students can be a part of the CMS experience. ATE student schedules will be tailored to accommodate their schedule.

*Additional co-curricular activities are also required as stated in the following pages*

### **Ninth Grade CMS requirements:**

7 courses – core and elective

*Core courses include – Math, Science, English and Social Studies*

*Plus:*

- Enter an original research project into the DHS Science/Inventor’s Fair in December
- Maintain a 3.0 GPA with C’s or higher in all core courses

Recommended:

- ◊ Participate in a summer science program – information goes out in the spring
- ◊ Participate in competitions

### **Tenth Grade CMS Requirements:**

7 courses – core and electives

*Plus:*

- Enter an original research project into the DHS Science/Inventor’s Fair in December
- Participate and compete in an academic competition (see below)
- Maintain a 3.0 GPA with C’s or higher in all core courses
- Pass FCAT Math and Reading tests

Recommended:

- ◊ Sign up and take the PSAT
- ◊ Participate in a summer science program – information goes out in the spring
- ◊ Do an internship with a company you may be interested in working.

### **Eleventh grade CMS Requirements:**

7 courses – core and electives

*Plus:*

- Conduct original research and write a paper suitable for submission for publication in a professional journal
- Maintain a 3.0 GPA with C's or higher in all core courses
- Complete college entrance portfolio and essays

Recommended:

- ◇ Take the SAT and/or the ACT in the Spring
- ◇ Participate in a summer science program
- ◇ Do an internship
- ◇ Conduct your original or continuing research in the summer to make your publication deadline in November of your senior year.
- ◇ Visit prospective colleges and get applications for colleges you are interested in.
- ◇ Look for and apply for scholarships as early as you can.

### **Twelfth grade CMS requirements:**

7 courses – core and electives

*Plus:*

- Conduct/continue original research and submit research to INTEL Talent Search in November
- Maintain a 3.0 GPA with C's or higher in all core courses

Recommended:

- ◇ Take the SAT and/or the ACT in the Spring
- ◇ Participate in a summer science program
- ◇ Do an internship
- ◇ Fill out and submit college applications early.
- ◇ Apply for as many scholarships as you can.

Some Academic Competition Clubs Available at DHS – there may be others available

A-Team, Math Team, Model UN, OM, Science Olympiad, Environthon – clubs are active when enough students participate

### **Some Summer Science/Math/Engineering Programs**

- UF – application due mid March
- ASM Camp – application due late February
- FAU – application due mid March
- FSU – application due mid March
- Clemson – application due May 1<sup>st</sup>/teacher nominations in March
- ONR Science and Engineering Apprentice Program – application due mid February
- Embry-Riddle Summer Academy (aviation careers/flight training)

### **Science Submissions Competitions with Prizes**

- DuPont Competition – due late January
- National DNA Essay – due late March
- Chemagination – due October to January
- Science Poetry Contest – due February
- Seimens Westinghouse Competition – due October (for \$100,000) Senior Project - Gold
- Intel Science Talent Search – due November (for \$100,000) Senior Project – Gold
- NASA High School Competition
- Hydrogen Race – applications due late march, competition May 6<sup>th</sup>
- TOSHIBA Exploravision Awards – due late January

*You can petition to substitute the listed co-curricular activities and some courses with another activity or course. Please speak with the Program Coordinator in advanced regarding any petition. Approval from the CMS Advisory Counsel is needed to make the substitution valid. Please direct any questions or concerns with the Program Coordinator*