

STEM Endorsement

ST STEM ENGINEERING CLUSTER

BIOTECHNOLOGY

(State-Approved Advanced Science Course)

As a Biotechnology student, you will study the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. You will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. In addition, you will conduct laboratory and field investigations using scientific methods during investigations to make informed decisions to solve problems. Advanced Biotechnology students study a variety of topics that include structures and functions of cells, nucleic acids, proteins, and genetics.

Recommended Prerequisites: Biology and Chemistry

Schools: MHS, SWHS

Grades: 11-12

Credit/Course ID: 1 / 13036400 / CST12A & CST12B

ENGINEERING MATHEMATICS

(State-Approved Advanced Mathematics Course)

Engineering Mathematics lets you solve and model robotic design problems using a variety of methods and models to represent and analyze problems involving data acquisition, spatial applications, electrical measurement, manufacturing processes, materials engineering, mechanical drives, pneumatics, process control systems, quality control & robotics with computer programming.

Prerequisite: Successful completion of Algebra I and Geometry, and completion or concurrent enrollment in Algebra II

Schools: SHS

Grades: 11-12

Credit/Course ID: 1 / 13036700 / CST60A & CST60B

Project Lead the Way (PLTW)—INTRODUCTION TO ENGINEERING DESIGN

This course teaches you the engineering design process through activities, problems, and projects. Topics include engineering notebooks, design processes, prototyping, technical sketching, measurement and statistics, 3D computer solid modeling, and reverse engineering. This is the prerequisite for all PLTW courses.

Schools: MHS, SWHS, SHS

Grades: 10-11

Credit/Course ID: 1 / N1303742 / CST51A & CST51B

Project Lead the Way (PLTW)—AEROSPACE ENGINEERING

Aerospace Engineering engages students in engineering design problems related to aerospace information systems, astronautics, rocketry, propulsion, the physics of space science, space life sciences, the biology of space science, principles of aeronautics, structures and materials, and systems engineering. Students will also have opportunities to learn and explore basic orbital mechanics, rocket design, environmental control and life support, and robotic system design for planetary exploration - real world scientific/aerospace projects and problems encountered by aerospace engineers.

Schools: SWHS

Grades: 10-11

Credit/Course ID: 1 / CST71A & CST71B

Project Lead the Way (PLTW)—PRINCIPLES OF ENGINEERING

Principles of Engineering introduces you to major concepts studied in a higher education engineering program. Topics include mechanisms, energy, statics, materials, kinematics, and computer control systems. You will develop problem-solving skills and apply your knowledge of math, science, and design to create solutions to various challenges, document your work, and communicate solutions.

Prerequisite: Successful completion of Introduction to Engineering Design and completion or concurrent enrollment in Algebra II

Schools: MHS, SWHS, SHS

Grades: 10-11

Credit/Course ID: 1 / 13037500 / CST52A & CST52B

Project Lead the Way (PLTW)—DIGITAL ELECTRONICS

Digital Electronics is the study of electronic circuits used to process and control digital signals. The major focus of the course is the design process applied to the use of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. You will analyze, design and build fundamental digital electronic circuits.

Prerequisite: Successful completion of Algebra I, Geometry, and Introduction to Engineering Design

Schools: MHS, SHS

Grades: 10-12

Credit/Course ID: 1 / 13037600 / CST53A & CST53B

Project Lead the Way (PLTW)—COMPUTER INTEGRATED MANUFACTURING

Computer Integrated Manufacturing provides students with an understanding of modern manufacturing methods. Topics include robotics and automation, manufacturing processes, computer modeling, rapid prototyping, CNC programming, manufacturing equipment, and flexible manufacturing systems.

Prerequisite: Successful completion of Introduction to Engineering Design

Schools: MHS

Grades: 11-12

Credit/Course ID: 1 / N1303748 / CST57A & CST57B

Project Lead the Way (PLTW)—ENGINEERING DESIGN AND DEVELOPMENT

(State-Approved Advanced Science Course)

Engineering Design and Development (EDD) is the capstone course in the PLTW high school engineering program. It is an engineering research course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Prerequisite: Successful completion of Introduction to Engineering Design

Schools: MHS

Grades: 11-12

Credit/Course ID: 1 / N1303749 / CST58A & CST58B

Project Lead the Way (PLTW)—CIVIL ENGINEERING

Civil Engineering and Architecture students will study important aspects of construction and building, along with site design and development such as: building systems, structural design, storm water management, site drainage, site design, utilities & services,

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cost estimation, energy efficiency, and design careers in the construction industry. They will apply math, science, and standard engineering practices to design both residential and commercial civil engineering projects and document their work using 3D CAD software.

Prerequisite: Successful completion of Introduction to Engineering Design

Schools: MHS

Grades: 11-12

Credit/Course ID: 1 / N1303747 / CST55A & CST55B

Business & Industry Endorsement



AGRICULTURE, FOOD & NATURAL RESOURCES CLUSTER

ADVANCED ANIMAL SCIENCE

(State-Approved Advanced Science Course)

Meet a class that will take you farther. This course is designed for students who want to deepen their knowledge of the livestock industry. In-depth studies include animal industry, anatomy & physiology, and livestock husbandry. Offered spring semester only.

Prerequisite: Successful completion of Small Animal Management/ Equine Science and Veterinary Medical Applications

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13000700 / CTAG15

ADVANCED PLANT AND SOIL SCIENCE

(State-Approved Advanced Science Course)

Get out of the classroom and take a class designed around greenhouse management from germinating seedling to marketing a finished product. Learn the techniques involved with propagation, fertilization, and maintenance. Investigations, laboratory practices, and field exercises will be used to develop an understanding of current plant and soil science.

Prerequisite: Successful completion of Horticulture Science

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13002100 / CTAG29

AGRICULTURAL MECHANICS

Agricultural Mechanics takes you through an overview of the skills you would need to maintain a farm or homestead. This hands-on class starts off with safety and exploration of the agricultural job market, then goes right into use of power tools, electrical, plumbing, concrete work, carpentry, fencing and working with metals including welding. Once you successfully complete the class you can tackle many repairs on the farm or at home.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13002200 / CTAG30

AGRICULTURE PRACTICUM

The practicum is designed to give you a supervised practical application what you have learned in Ag. Practicum experiences can occur in a variety of ways including employment, independent study, internships, assistantships, mentorships, or laboratories. You will use

what you know to acquire industry-expected workplace skills, career opportunities, entry requirements, and industry expectations.

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13002500 / CAG82A & CAG82B

FLORAL DESIGN

(State-Approved as Fine Arts Credit)

Let loose your creative side as this hands-on course takes you through step-by-step instructions of arranging flowers and interior plant designs. Leave this class with the skill to arrange flowers for yourself or for employers. Look forward to designing your projects and taking them home to share with others.

Recommended Prerequisite: Principles of AFNR

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 1 / 13001800 / CTAG26

Technical Certification: Texas Florist High School Floral Certification

GREENHOUSE OPERATION AND PRODUCTION

Greenhouse Operation and Production is designed to develop an understanding of greenhouse production techniques and practices.

To prepare for careers in horticultural systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to horticultural systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13002050 / CTAG31

HORTICULTURAL SCIENCE

Get your hands dirty and develop your green thumb by way of an introduction to horticultural science through hands-on activities, projects, and problems. Learn plant growth and development, nutrition, media selection, plant identification and pest management. Your work will involve the study of the principles of plant anatomy and physiology, taxonomy, and fundamentals of production and harvesting.

Recommended Prerequisite: Principles of AFNR

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13002000 / CTAG28

LANDSCAPE DESIGN AND MANAGEMENT *and* TURF GRASS MANAGEMENT

The first of these concurrent courses, Landscape Design and Management, will help you develop skills for careers related to residential and commercial lawn design and care. Techniques in designing, constructing, and maintaining planted areas and devices for the beautification of home grounds and other areas of habitation and recreation will be developed. They will also explore design planning, irrigation, plant identification, planting, and the employment opportunities made available through this career. The Turf Grass Management course will help you develop techniques and practices for careers as golf course superintendent, sports turf manager, irrigation technician, and many other interesting related careers.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 0.5 / 13001900 / CTAG25 *and*

0.5 / 13001950 / CTAG27

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LIVESTOCK PRODUCTION

Gain insight and information about the animals that feed our world. This course will provide you an introduction to livestock production including anatomy, nutrition, health care and information specific to the species. If you are interested in livestock judging this is for you.

Recommended Prerequisite: Principles of AFNR

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13000300 / CTAG11

OIL & GAS PRODUCTION 1 *and* OIL & GAS PRODUCTION 2

Interested in the oil and gas industry then this is the class for you! Students enrolled in this course will be able to identify specific career opportunities in the oil and gas industry, and the skills, abilities, tools, certification, and safety measures associated with each career. Students will also be provided with an understanding of components, systems, equipment, production, and safety regulations associated with oil and gas well production and maintenance. Oil and Gas Production 2 students will deepen their knowledge and be ready to identify and determine potential career opportunities in the oil and gas industry they are interested in pursuing. They will continue to expand knowledge and the skills, abilities, tools, certification, and safety measures associated with each career as well as an understanding of components, systems, equipment, production, and safety regulations associated with oil and gas well production and maintenance.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13001250 / CTAG50 *and*
1 / 13001260 / CTAG51

PRINCIPLES OF AGRICULTURE, FOOD & NATURAL RESOURCES (AFNR)

Don't think agriculture affects you? Get ready for this eye opening class! Learn how food, clothing, shelter, transportation, medicine and modern-day conveniences rely on agricultural products. Students will also explore how agriculture affects government & international trade.

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 1 / 13000200 / CTAG10

RANGE ECOLOGY AND MANAGEMENT

Range Ecology and Management is designed to develop understanding of rangeland ecosystems and sustainable forage production. To prepare for careers in environmental and natural resource systems, students must attain academic skills and knowledge, acquire technical knowledge and skills related to environmental and natural resources, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13001600 / CTAG24

SMALL ANIMAL MANAGEMENT *and* EQUINE SCIENCE

In Small Animal Management, the first of these concurrent classes, you will learn what a valuable role dogs, cats, hamsters, birds, and reptiles play in our society. Develop knowledge and skills pertaining to the selection, nutrition, grooming, reproduction, health, and management of small animals. Live animals are used in classroom

demonstrations. Equine Science is the second class and you will be exposed to the science of horses and technology principles that include genetics, anatomy, physiology/nutrition, diseases, pests, and management practices. Topics also include an introduction to the equine industry, various breeds, conformation, selection, care and management, soundness, health, feeding, farrier observation, restraints, general vaccinations and overall managerial duties. These classes must be taken concurrently.

Recommended Prerequisite: Principles of AFNR

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 0.5 / 13000400 / CTAG12 *and*
0.5 / 13000500 / CTAG13

VETERINARY MEDICAL APPLICATIONS

Explore the basics of the veterinary medical profession and know what goes on behind the scenes of a vet clinic. You will gain skills that technicians need to know, like handling a wide variety of animals, assisting clients, office management and legal issues. Learn common ailments and treatments as well as emergency care techniques. Classroom demonstrations will use live animals.

Prerequisite: Successful completion of Livestock Production or Small Animal Management/Equine Science

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13000600 / CTAG14

Technical Certification: Certified Vet Assistant Level 1 (12th grade)

WILDLIFE, FISHERIES, & ECOLOGY MANAGEMENT

This course is designed for students who love the great outdoors. Learn how to identify, manage and conserve wildlife and their ecology. Students can acquire state certification in Hunter Education.

Recommended Prerequisite: Principles of AFNR

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 1 / 13001500 / CTAG23

Technical Certification: Texas Hunter Education Certification, Texas Boater Education Certification

MATHEMATICAL APPLICATIONS IN AGRICULTURE, FOOD & NATURAL RESOURCES

(A CTE course for your 3rd Mathematics credit)

In this course, you will learn and apply the math required to solve problems related to agriculture, food, and natural resources industries. You will be able to apply statistical and data analysis; construct and analyze charts, tables, and graphs; demonstrate knowledge of algebra; and use geometric principles.

Prerequisite: Successful completion of Algebra 1

Recommended Prerequisite: one class from the AFNR cluster

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13001000 / CTAG60

ARCHITECTURE & CONSTRUCTION CLUSTER

PRINCIPLES OF ARCHITECTURE *and* ARCHITECTURAL DESIGN 1

Want to design your future as an architect? Start your sophomore year at the Guthrie Center for potentially three years of architectural study. Projects are designed to build your portfolio and resume so

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that you are the best candidate for the college program of your choice. In your first year of study, you will learn networking techniques, art practices, technical drafting and beginning computer aided drafting skills. You will learn the lettering styles used by architects, how to do an "as-built," how to read a blueprint, how to edit a commercial tenant improvement set of documents and compete in a student design competition. Start building your dream today!

These classes must be taken concurrently.

Prerequisite: Successful completion/concurrent enrollment in Geometry

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13004600 / CTAC12 *and*
1 / 13004210 / CTAC13

ARCHITECTURAL DESIGN 2

Carry on the dream by taking a second year of architectural study. Building upon knowledge and skills successfully mastered in Principles of Architecture/Architectural Design 1, you will learn about residential design. You will study building codes, site plans, interior design, room relationships and sizes, exterior design, conservation and environmental design and framing methods. Projects added to your portfolio will include designing a kitchen, preparing presentation materials using advanced computer aided drawing skills, specifying appliances and materials, and building a scaled model and competing in a student design competition. Continue to construct your future today.

Prerequisite: Successful completion of Architectural Design 1

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13004700 / CAC22A & CAC22B

Technical Certification: AUTODESK Certified User: AutoCad

ARCHITECTURAL DESIGN 3—PRACTICUM

Planning for achievement towards a degree in architecture involves a developed portfolio, skilled instruction, dedication and hard work. This year binds together the previous two years of instruction. Students will receive instruction about safety, career opportunities, architectural soft skills, work ethics, student design competition, and college architectural design study. In addition, students will have the talent to create a senior design project to add to their developing portfolio using the Autodesk Revit program. The foundation is laid for success in an exciting career in Architecture.

Prerequisite: Successful completion of Architectural Design 2

Schools: Guthrie

Grades: 12

Credit/Course ID: 2 / 13004800 / CAC82A & CAC82B

Technical Certification: Autodesk Certified User: REVIT

CONSTRUCTION TECHNOLOGY 1

Construction is one the fastest growing fields in Houston. Come be a part of it! Discover what is needed to enter the workforce as a carpenter, building maintenance supervisor or prepare for a post-secondary degree in construction management, architecture or engineering. Through hands-on activities, skills in safety tool usage, building materials, codes and framing are experienced.

Schools: NHS, SWHS, SHS

Grades: 10-12

Credit/Course ID: 2 / 13005100 / CAC14A & CAC14B

CONSTRUCTION TECHNOLOGY 2

Construction Technology 2 is a second level course where you continue the skills acquired from Construction Technology. You will be introduced to exterior and interior finish out skills, cabinetry, and other construction trades such as electrical and plumbing.

Prerequisite: Successful completion of Construction Technology 1

Schools: NHS, SWHS, SHS

Grades: 11-12

Credit/Course ID: 2 / 13005200 / CAC24A & CAC24B

INTERIOR DESIGN 1

Are you creative? Do you enjoy art? Are you interested in construction? Interior Design will give you the opportunity to develop the fundamental skills needed to create functional along with beautiful living environments. You will learn about the many facets of Interior Design including: the elements and principles of design, color theory, materials, furniture, space planning, furniture arranging, the trends and issues of interior design and housing. You will apply concepts by hands-on activities related to residential to commercial aspects within the construction industry.

Schools: SHS

Grades: 10-12

Credit/Course ID: 1 / 13004300 / CAC11A & CAC11B

JACK OF ALL TRADES: PRINCIPLES OF CONSTRUCTION

Whatever you do to earn a living, chances are you will live in or own a home and be responsible for making repairs and keeping it in good condition. If you make lots of money you can just hire people to do it for you, but most people end up trying to fix it themselves. This class will address routine repairs and maintenance around the home using only the tools you might find in a toolbox or workbench at home. You will identify, plan and solve real problems and should finish the class thinking you are a do-it-yourself expert.

Schools: NHS, SWHS

Grades: 9-12

Credit/Course ID: 1 / 13004220 / CAC10A & CAC10B

TRIO ELECTRICIAN APPRENTICESHIP PROGRAM

The TRIO Electrician Pre-Apprenticeship Program at The Guthrie Center is an outstanding way for you to get a solid head start in the high-demand, high skill field of electrical work. In the first year of the TRIO Electrician Apprenticeship program, you will take both Electrical Technician 1 and Mathematics for Technical Professionals. Starting your junior year you will take classes at Guthrie taught by a master electrician, work in a paid internship during the summer between 11th and 12th grade, all while you earn dual credit from Houston Community College

APPLIED MATHEMATICS FOR TECHNICAL PROFESSIONALS (TRIO)

(CTE course for 3rd Mathematics credit)

Geared solely for students in the Electrician Apprenticeship program, you can earn a high school graduation math credit brought to life in the field of electricity. The idea behind Mathematics for Technical Professionals is to weave what you need to learn with your pathway so you can be a successful problem solver and use math efficiently and effectively in daily life. You will use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

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This includes mental math, estimation, and number sense to generate solutions and make connections and predictions.

Must be taken concurrently with Electrical Technician 1.

Prerequisites: Successful completion of Algebra 1

Schools: Guthrie

Grade: 11

Credit/Course ID: 1 / 12701410 / CTPM60

ELECTRICAL TECHNICIAN 1 (TRIO)

In the first year of the TRIO Electrician Apprenticeship program, you will take both Electrical Technician 1 and Mathematics for Technical Professionals. The first year helps you acquire the knowledge and skills in safety, electrical theory, tools, codes, installation of electrical equipment, and the reading of electrical drawings, schematics, and specifications.

Must be taken concurrently with Mathematics for Technical Professionals (TRIO).

Recommended Prerequisite: Successful completion of Jack of All

Trades: Principles of Construction or Agricultural Mechanics.

Schools: Guthrie

Grade: 11

Credit/Course ID: 1 / 13005600 / CTAC35

ELECTRICAL TECHNICIAN 2 (TRIO)

This second year of the Electrician Apprenticeship program goes deeper into applied electrical concepts in safety, electrical theory, tools, codes, installation of electrical equipment, alternating current and direct current motors, conductor installation, installation of electrical services, and electric lighting installation.

Prerequisite: Successful completion of Electrical Technician 1 and Mathematics for Technical Professionals

Schools: Guthrie

Grade: 12

Credit/Course ID: 2 / 13005700 / CTAC45



ARTS, A/V TECHNOLOGY & COMMUNICATIONS CLUSTER

3D ANIMATION 1—GAME ART w/LAB

Learn to develop and communicate your animation ideas through 3D modeling, animation, concept drawings, storyboards, virtual lights & cameras, and scene design using the same techniques and software used by professionals.

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 2 / 13008310 / CAV11A & CAV11B

3D ANIMATION 2—GAME ART w/LAB

Expand the skills and creativity you developed in 3D Animation 1. Skills taught include introduction to character design, 3D modeling and texturing a character, Bone system and character rigging for animation, effective in-depth storytelling, visual effects and post production techniques, introduction to Unreal game engine and integrated audio and sound F/X, as well as creating an online portfolio.

Prerequisite: Successful completion of 3D Animation 1—Game Art w/Lab

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13008410 / CAV21A & CAV21B

Technical Certification: Autodesk Maya Certified User

3D ANIMATION 3—GAME DEVELOPMENT PRACTICUM 1

Utilize the latest technologies in 3D modeling, animation for developing real time graphics, with the goal of producing models and animations that relate to industrial projects such as: product visualization, oil and gas equipment, architectural scenes, and consumer products.

Prerequisite: Successful completion of 3D Animation 2—Game Art w/Lab

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13008450 / CAV83A & CAV83B

3D ANIMATION 4—GAME DEVELOPMENT PRACTICUM 2

This course expands the use of motion capture as it applies to game development. You will learn how to create games level by utilizing current game development engines; also explore concepts in layering digital assets into composites for video and film. This prepares you for working in the industry through internships with local business partners, as well as extending animation studies at a college or university.

Prerequisite: Successful completion of 3D Animation 3—Game Development Practicum 1

Schools: Guthrie

Grades: 12

Credit/Course ID: 2 / 13008460 / CAV93A & CAV93B

Technical Certification: Autodesk Maya Certified User and Portfolio Completion

COMMERCIAL PHOTOGRAPHY 1 w/LAB

Are you creative? Do you like to take photos? The Guthrie Center Commercial Photography Department teaches you how to transform your love of photos into a serious hobby or can even propel you into an exciting career that can earn you money while you go to college! This hands-on and very unique Guthrie class will give you an opportunity to work in a real studio using professional equipment. You'll learn how to edit your photos using the latest software and will create an amazing portfolio that can open doors to an exciting new world!

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 2 / 13009110 / CAV14A & CAV14B

COMMERCIAL PHOTOGRAPHY 2 w/LAB

If you want to take your Commercial Photography 1 skills to the next level, this advanced course takes you through a more technical experience and encourages you to push your imagination. Students spend most of their time in our studios and are often selected to work for outside clients. Students can earn an industry certification.

Prerequisite: Successful completion of Commercial Photography 1

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13009210 / CAV24A & CAV24B

Technical Certification: Adobe Certified Associate - Photoshop

COMMERCIAL PHOTOGRAPHY 3—PRACTICUM

This course is for the very serious student who plans to pursue a career in this field. Students are self-starters, often work independently and are led under the instruction of the teacher.

Prerequisite: Successful completion of Commercial Photography 2

Schools: Guthrie

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Grades: 11-12

Credit/Course ID: 2 / 13009250 / CAV87A & CAV87B

Technical Certification: Adobe Certified Expert - Lightroom

FASHION DESIGN 1 w/LAB

Bring fashion to life! This course will introduce you to the world of fashion. Topics covered are the trends of fashion, apparel industry, promotion, textiles, design, clothing construction and careers related to fashion. It is a “hands-on” course that will allow you to have many career-related experiences.

Schools: MHS, SHS

Grades: 10-12

Credit/Course ID: 2 / 13009310 / CAV15A & CAV15B

FASHION DESIGN 2 w/LAB

Do you dream of being a top fashion designer? In this course you will have the opportunity to evaluate the fibers and fabrics used to create great designs. You will analyze the influences from the past, present and possible future of Textile Design and Production and identify careers in the apparel and textile industries. You will determine how history continues to influence the apparel industry today. You will have the opportunity to create fashion garments that reflect the application of design elements and principles. It is a “hands-on” course that will provide many career-related experiences.

Prerequisite: Successful completion of Fashion Design 1

Schools: SWHS, SHS

Grades: 11-12

Credit/Course: 2 / 13009410 / CAV25A & CAV25B

FILM AND VIDEO PRODUCTION 1 w/LAB

Lights! Camera! Action! Do you enjoy watching movies and music videos? Are you the person that’s always seen the latest films, knows who’s directed them and know some of the behind-the-scenes information? If so, The Guthrie Center Film class is for you! We are unlike any other class offered in SBISD! You’ll learn how to produce and direct your own productions and you’ll even create a demo reel of all of your work. You’ll learn how to use Final Cut Pro X, the leading software used in editing movies like *The Social Network*, *The Girl With the Dragon Tattoo*, *X-Men*, *Napoleon Dynamite* and more! Whether you want to go to Hollywood and become a Director or want to learn a serious hobby, this class will give you an experience you’ll never forget.

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 2 / 13008510 / CAV12A & CAV12B

FILM AND VIDEO PRODUCTION 2 w/LAB

If you want to take your Film and Video Production 1 experience to the next level, this class is for you. This class is for students who want to pursue a career in this industry and want to gain the skills and knowledge that will set them apart and get them that job. Students are often selected to produce for outside clients. Students can earn an industry certification.

Prerequisite: Successful completion of Film and Video Production 1

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13008610 / CAV22A & CAV22B

Technical Certification: Apple Final Cut Certified Associate

FILM AND VIDEO PRODUCTION 3—PRACTICUM

This course is for the very serious student who plans to pursue a career in this field. Students are self-starters, often work

independently and are led under the instruction of the teacher.

Students can earn an industry certification.

Prerequisite: Successful completion of Film and Video Production 2

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13008700 / CAV82A & CAV82B

GRAPHIC DESIGN 1 w/LAB

Utilize the latest tools and software to design colorful, exciting, eye catching, engaging and memorable advertising and marketing communications that will have people abuzz about the products and services that you feature. This course focuses on the basics of color and design, illustration and the effective use of typography to showcase your clients’ products or services to their potential customers. Learn Adobe software tools that professionals use to bring your ideas to print.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13008810 / CAV13A & CAV13B

GRAPHIC DESIGN 2 w/LAB

Today our society relies on visual communication. The second year continues deeper into concepts and processes of Graphic Design for print and web. Adobe Creative Suite with projects in editorial, web and motion graphic design can be mastered.

Prerequisite: Successful completion of Graphic Design 1

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13008910 / CAV23A & CAV23B

Technical Certification: Adobe Certified Associate – Illustrator

GRAPHIC DESIGN 3—PRACTICUM

Work on actual projects with customers from businesses and school district departments to get a real taste of the Graphic Design career.

Prerequisite: Successful completion of Graphic Design 2

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13009000 / CAV85A & CAV85B

Technical Certification: Adobe Certified Associate – InDesign

BUSINESS, MANAGEMENT & ADMINISTRATION CLUSTER

BUSINESS INFORMATION MANAGEMENT (BIM) 1

In today’s tech-savvy world, technology skills are a must! Develop the computer skills you need to succeed in both college and career. This course includes applications for both personal and business situations, with particular focus on the Microsoft Office Suite. This is one of the required courses for Academy of Finance.

Schools: MHS, NHS, SWHS, SHS, WAIS

Grades: 9-12

Credit/Course ID: 1 / 13011400 / CBM12A & CBM12B

Technical Certification: MOS Word and Excel Certification

BUSINESS INFORMATION MANAGEMENT (BIM) 2

Expand your computer skills by building advanced technology expertise required in today’s global business environment. By the end of this course you will know the Microsoft Office Suite in depth and can become certified as a Microsoft Office Specialist (MOS). MOS is

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a globally recognized certification that is standard for demonstrating technology proficiency. This certification sets you apart from the job-seeking crowd.

Prerequisite: Successful completion of Business Information Management 1
Schools: MHS, NHS, SWHS, SHS
Grades: 10-12
Credit/Course ID: 1 / 13011500 / CBM22A & CBM22B
Technical Certification: Additional MOS Certifications

BUSINESS LAW

Are you a "Law and Order" fan? Business Law will teach you to analyze legal issues related to civil and criminal laws, the court system, contracts, family law, employment, and property to prepare you for life and the workplace. You will use your technical skills to the study of business and contemporary legal issues. This course meets the optional 1 credit needed to complete the Academy of Finance.

Schools: MHS, NHS, SHS, WAIS
Grades: 11-12
Credit/Course ID: 1 / 13011700 / CBM14A & CBM14B

BUSINESS MANAGEMENT—PRACTICUM

Practicum in Business Management is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences occur in a paid or unpaid arrangement and a variety of locations appropriate to the nature and level of experience. Students implement personal and interpersonal skills to strengthen individual performance in the workplace and in society and to make a successful transition to the workforce or postsecondary education. Students apply technical skills to address business applications of emerging technologies. Students develop a foundation in the economic, financial, technological, international, social, and ethical aspects of business to become competent consumers, employees, and entrepreneurs. Students enhance reading, writing, computing, communication, and reasoning skills and apply them to the business environment.

Prerequisite: Successful completion in 1 credit Business or Finance
Schools: MHS, SHS
Grades: 11-12
Credit/Course ID: 2 / 13012200 / CBM81A & CBM81B

EXTENDED PRACTICUM IN BUSINESS

This course provides the opportunity for students to receive a 3rd credit for the Practicum of Business if needed.

Schools: MHS, SHS
Grades: 11-12
Credit/Course ID: 3 / 13012205 / CBM81C & CBM81D

GLOBAL BUSINESS

The world is just a touch away! Global Business introduces concepts of the global market and international trade. We will look at the economy of the global marketplace, study cultural differences and the effects of those differences on our society, international law and finance. Enjoy this innovative experience and discover the world at hand. This course meets 0.5 credit for optional 1 credit needed for the Academy of Finance.

Schools: AOC, MHS, NHS, SWHS, SHS, WAIS
Grades: 10-12
Credit/Course ID: .5 / 13011800 / CTBM15

PRINCIPLES OF BUSINESS, MARKETING & FINANCE

Want to open up a whole new world of opportunities? Then let's get down to business! In this course, you will gain knowledge and skills in business, finance and marketing. This course meets the optional 1 credit needed to complete the Academy of Finance.

Schools: AOC, MHS, NHS, SWHS
Grades: 9-12
Credit/Course ID: 1 / 13011200 / CBM11A & CBM11B



ACCOUNTING 1

Want to get a grasp on how finances are handled in the world of business? Accounting is the class to take! This fun and challenging program will give you an understanding of the checks and balances of the business world. Accounting 1 is a college prep course for Business majors. It is the equivalent to college level Office Accounting, which is a prerequisite to Financial Accounting on the college level. The goal of the class is to build a good foundation of Accounting theory so you will be successful in college Accounting. You will complete the Accounting cycle for both a service and merchandising business. This is one of the required courses for Academy of Finance.

Schools: MHS, NHS, SWHS, SHS, WAIS
Grades: 10-12
Credit/Course ID: 1 / 13016600 / CF114A & CF114B
Technical Certification: QuickBooks Certified User

ACCOUNTING 2

(State-Approved Advanced Mathematics Course)
Level 2 provides for review and further development of fundamental accounting principles with extensive use of computerized accounting programs. Study the Stock Market, Investing and Corporate Accounting. This course meets the optional 1 credit needed to complete the Academy of Finance.

Prerequisite: Successful completion of Accounting 1
Schools: MHS, NHS, SHS, WAIS
Grades: 11-12
Credit/Course ID: 1 / 13016700 / CF124A & CF124B

BANKING AND FINANCIAL SERVICES

This course delves into the dynamic Banking and Financial industries, hence the name. Discover the excitement of operating in the banking world including sales and management functions. This course meets 0.5 credit for optional 1 credit needed for the Academy of Finance.

Schools: AOC, MHS, NHS, SHS
Grades: 10-12
Credit/Course ID: .5 / 13016300 / CTF111

FINANCIAL MATHEMATICS

(State-Approved Advanced Mathematics Course)
Students will apply critical thinking skills to analyze personal financial decisions based upon the current and projected economic factors. Math and calculations related to the real world experiences include some of the following: net pay, income taxes, calculate mortgage

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payment, property taxes, mortgage insurance, closing cost, interest cost. They will integrate career and postsecondary education planning into financial decision-making throughout the course. This is one of the required courses for Academy of Finance.

Prerequisite: Successful completion of Algebra I and Geometry

Schools: AOC, MHS, NHS, SWHS, WAIS

Grades: 10-12

Credit/Course ID: 1 / 13018000 / CFI60A & CFI60B

MONEY MATTERS

This class will help empower students to make sound financial decisions for life. This course will teach you the following: save money and build wealth, negotiate great deals, establish a budget that works, identify and understand different types of investments, set and achieve financial and career goals, describe the many dangers of debt, recognize the advantages of renting and owning a home, become an aware consumer, and understand different types of insurance and what's best for you. Meets optional 1 credit needed to complete the Academy of Finance

Schools: MHS, NHS, SWHS, SHS, WAIS

Grades: 9-12

Credit/Course ID: 1 / 13016200 / CFI10A & CFI10B

STATISTICS AND BUSINESS DECISION MAKING

(State-Approved Advanced Mathematics Course)

Statistics and Business Decision Making is an introduction to statistics and the application of statistics to business decision making. Students will use statistics to make business decisions. Students will determine the appropriateness of methods used to collect data to ensure conclusions are valid. This course meets the optional 1 credit needed to complete the Academy of Finance.

Prerequisite: Successful completion of Algebra II

Schools: MHS

Grades: 11-12

Credit/Course ID: 1 / 13016900 / CFI61A & CFI61B



HOSPITALITY & TOURISM CLUSTER

INTRODUCTION TO CULINARY ARTS

Introduction to Culinary Arts will provide insight into food production skills, various levels of industry management, and hospitality skills. This is an entry level course for students interested in pursuing a career in the food service industry. This course is offered as a classroom and laboratory-based course.

Schools: NHS, SWHS

Grades: 9-10

Credit/Course ID: 1 / 13022550 / CHT04A & CHT04B

CULINARY ARTS 1

Culinary Arts begins with the fundamentals of cooking, the science of baking, management and production skills, and safety/sanitation procedures. Along with guest chefs, we will help you develop and refine your creative side. You will master the steps of recipe development and event planning where you will participate in specific dining functions throughout the course.

Schools: Guthrie

Grades: 9-11

Credit/Course ID: 2 / 13022600 / CHT14A & CHT14B

Articulated College Credit with The Art Institute of Houston

Technical Certification: ServSafe Food Handler

CULINARY ARTS 2

In this course you will be in the kitchens working with food most of the time! First semester will be dedicated to Baking and Pastry in our commercial bake shop and second semester will be geared towards international cuisine. Culinary Arts 2 will extend content and enhance skills introduced in Culinary Arts 1 by infusing high-level, industry-driven content to prepare students for success in higher education, certifications and/or immediate employment. This mid-level course will increase your depth of knowledge and experience in specific areas including baking, protein selection, advanced nutrition and sustainability. As an Advanced Culinary Arts student you will have a complete understanding of front and back of the house roles and how these areas work together to create a successful operation. You will prepare for national certifications that will provide you an advantage for scholarships, college admittance and employment.

Prerequisite: Successful completion of Culinary Arts 1

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13022650 / CHT24A & CHT24B

Articulated College Credit with The Art Institute of Houston

CAFE OPERATIONS—PRACTICUM

This course will put you in the driver's seat for running our campus café! A combination of lab instruction, demonstration, and hands-on production will provide you practical application to café and catering business practices and kitchen operations.

Prerequisite: Successful completion of Culinary Arts 2

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13022710 / CHT94A & CHT94B

Articulated College Credit with The Art Institute of Houston

CHEF TRAINING—PRACTICUM

Chef Training is for students that are sincerely interested in the culinary field. You will partner with chefs from The Art Institute of Houston and other area professional chefs as we learn higher-level cooking skills. You will develop advanced knife skills, soup and sauce production, vegetable and meat cookery, and may earn your ServSafe certification. Study trips include touring restaurants and hotels, and networking with chefs and others in the industry.

Prerequisite: Successful completion of Culinary Arts 2

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13022700 / CHT84A & CHT84B

Articulated College Credit with The Art Institute of Houston

Technical Certification: ServSafe Food Service Manager Certification

FOOD SCIENCE

(State-Approved Advanced Science Course)

Meet your science credit for graduation, with this class. Food Science is the study of the nature of foods, the causes of deterioration, the principles underlying food processing, and the improvement of foods for the consuming public. You will conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving.

Schools: SWHS

Grades: 11-12

Credit/Course ID: 1 / 13023000 / CHT70A & CHT70B

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HOTEL 1: HOTEL MANAGEMENT *and* HOSPITALITY SERVICES 1—PRACTICUM

This internship is held at the luxurious Omni Hotel Westside every day where you will spend time in several of your favorite departments, take trips to popular attractions and hotels and learn alongside professionals. Begin your career in hospitality while you earn course credit from the Conrad Hilton College at the University of Houston. Bus transportation to the hotel is provided.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13022300 / CHT11A & CHT11B *and*
2 / 13022900 / CHT85A & CHT85B

Technical Certifications: AHLEI Certified Guest Service

HOTEL 2: TRAVEL & TOURISM MANAGEMENT *and* HOSPITALITY SERVICES 2—PRACTICUM

Your second year at the Omni will find you exploring the travel world of cruise ships, airlines, amusement parks, resorts and the many careers of travel and tourism.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13022500 / CHT13A & CHT13B *and*
2 / 13022910 / CHT95A & CHT95B

Technical Certifications: AHLEI Certified Guest Service

INFORMATION TECHNOLOGY CLUSTER

COMPUTER MAINTENANCE w/LAB

This program will prepare you to take CompTIA's A+ Certification exam. With this certification, you will be ready to go to work in the high-tech and high-paying IT jobs of tomorrow. Through hands-on activities and labs, you will assemble and configure computers, install operating systems, software, and set up/troubleshoot hardware, software and networks.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13027310 / CIT11A & CIT11B

Technical Certification: CompTIA A+ Certification

NETWORKING 1 w/LAB

This program will prepare students to take the Cisco CCNA or CCENT Certification exams. With these certifications, you will be ready to go to work in the high-tech and high-paying IT jobs of tomorrow. Through hands-on activities and labs, you will learn how to configure routers and set up small networks using many commercial design and network administrator tools.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 2 / 13027410 / CIT12A & CIT12B

Technical Certification: CCENT (Cisco Certified Entry Networking Technician)

NETWORKING 2—PRACTICUM IN IT

In this second year of Cisco Networking, you will gain additional knowledge and experience in preparation of CCNA/CCENT certifications.

Prerequisite: Successful completion of Networking 1 is required

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13028000 / CIT82A & CIT82B

Technical Certification: CCNA (Cisco Certified Networking Associate)

COMPUTER TECHNICIAN—PRACTICUM

The Computer Technician practicum allows you to apply what you learned in other classes. Computer technicians must be well-versed in multiple computer systems and network functions. The ideal candidate will be able to diligently and accurately apply solid problem-solving skills to fix issues and ensure functionality. Some of the responsibilities include: hardware setup, install and configure software and drivers, maintain and repair tech equipment and peripherals, design and install well-functioning LAN/WAN and other networks and manage network components, manage security options and software in computers and networks to maintain privacy and protection from attacks, perform regular upgrades and updates, troubleshoot system failures and provide solutions to restore functionality, arrange maintenance sessions to discover and resolve inefficiencies, keep records of repairs and fixes for future reference, provide just-in-time technical support, and develop your professional soft skills needed for success.

Prerequisite: Successful completion of Computer Maintenance

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 13027500 / CIT81A & CIT81B

COMPUTER PROGRAMMING 1 *and* COMPUTER PROGRAMMING 2

In Computer Programming 1, students will acquire knowledge of structured programming techniques and concepts appropriate to developing executable programs and creating appropriate documentation. Students will analyze the social responsibility of business and industry regarding the significant issues relating to the environment, ethics, health, safety, and diversity in society and in the workplace as related to computer programming. Students will apply technical skills to address business applications of emerging technologies. Computer Programming 2 will expand their knowledge and skills in structured programming techniques and concepts by addressing more complex problems and developing comprehensive programming solutions.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13027600 / CTIT13 *and*

1 / 13027700 / CTIT16

DIGITAL INTERACTIVE MEDIA

Join the world of multimedia. Develop technology skills with applications to personal or business situations focusing on web design, video and audio techniques, digital imaging, desktop publishing, presentation management, and career awareness that leads to a successful transition to the workplace and college.

Schools: AOC, SWHS, WAIS

Grades: 9-12

Credit/Course ID: 1 / 13027800 / CIT14A & CIT14B

GEOGRAPHIC INFORMATION SYSTEMS (GIS) *and* RASTER BASED GIS

Data Technicians for the energy industry work directly with geologists, engineers and business managers by providing technical support for oil and gas exploration. Data Technicians need proficiency in many technical applications and present the information

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from these computer languages that can be understood by all involved in the process. The first course blends Geographic Information Systems transferring GPS data into mapping layouts for things like traffic flow, crime rates and economic development. Raster Based GIS shows skill building in industry, standard geospatial extension software, geospatial tools including global positioning systems (GPS), and continued training in GIS project management and problem solving to begin your journey towards a lucrative career as a Geo Tech.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / N1302805 / CTIT54 **and**
1 / N1302806 / CTIT55

WEB TECHNOLOGIES

Through the study of web technologies and design, students learn to make informed decisions and apply the decisions to the field of information technology. Students implement personal and interpersonal skills to prepare for a rapidly evolving workplace environment. The knowledge and skills acquired and practiced will enable students to successfully perform and interact in a technology-driven society. Students enhance reading, writing, computing, communication, and critical thinking and apply them to the information technology environment.

Schools: AOC, SWHS

Grades: 10-12

Credit/Course ID: 1 / 13027900 / CIT15A & CIT15B



MANUFACTURING CLUSTER

INTRODUCTION TO WELDING

Introduction to Welding will provide an introduction to welding technology with an emphasis on basic welding laboratory principles and operating procedures. Students will be introduced to the three basic welding processes. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. Introduction to Welding will provide students with the knowledge, skills, and technologies required for employment in welding industries. Students will develop knowledge and skills related to welding and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and expectations and the development of workplace skills will prepare students for future success.

Schools: SWHS

Grades: 9-12

Credit/Course ID: 1 / 13032250 / CMF03A & CMF03B

WELDING 1

Welding provides the knowledge, skills, and technologies required for employment in metal technology systems. Students will develop knowledge and skills related to this system and apply them to personal career development. This course supports integration of academic and technical knowledge and skills. Students will reinforce, apply, and transfer knowledge and skills to a variety of settings and problems. Knowledge about career opportunities, requirements, and

expectations and the development of workplace skills prepare students for future success.

Schools: SWHS

Grades: 10-12

Credit/Course ID: 2 / 13032300 / CMF13A & CMF13B

WELDING 2

Welding 2 builds on the knowledge and skills developed in Welding 1. Students will develop advanced welding concepts and skills as related to personal and career development. Students will integrate academic and technical knowledge and skills. Students will have opportunities to reinforce, apply, and transfer knowledge and skills to a variety of settings and problems.

Prerequisite: Successful completion of Welding 1

Schools: SWHS

Grades: 11-12

Credit/Course ID: 2 / 13032400 / CMF23A & CMF23B



MARKETING CLUSTER

SPORTS AND ENTERTAINMENT MARKETING

On your Mark, Get Set, Go! Sports and Entertainment Marketing focuses on the functions of marketing as it relates to the business of sports. It's not just a game – it's business. You will be given many opportunities to design marketing strategies, select appropriate products and promotional activities for sports and entertainment events and go on field trips. Let the games begin! Will you be ready when the whistle blows?

Schools: AOC, SWHS, SHS

Grades: 9-12

Credit/Course ID: .5 / 13034600 / CTMK15

ENTREPRENEURSHIP

In Entrepreneurship, students will gain the knowledge and skills needed to become an entrepreneur. Students will learn the principles necessary to begin and operate a business. The primary focus of the course is to help students understand the process of analyzing a business opportunity, preparing a business plan, determining feasibility of an idea using research, and developing a plan to organize and promote the business and its products and services. In addition, students will understand the capital required, the return on investment desired, and the potential for profit in a business.

Schools: SWHS

Grades: 10-12

Credit/Course ID: 1 / 13034400 / CMK13A & CMK13B

PRACTICUM IN MARKETING

This course consists of in-class instruction as well as on-the-job training. Students will be required to be gainfully employed for the entire school year with a requirement of 10 to 15 hours per week. Students will learn how marketing decisions are made and the steps involved in the marketing process. Students will also learn various marketing strategies businesses use to create and promote products, satisfy customers, and make a profit. In addition to these marketing concepts, students will learn how to understand economic foundations that are essential to knowing where, when, why and how to get goods and services into the hands of consumers.

Schools: NHS

Grades: 11-12

Credit/Course ID: 2 / 13034800 / CMK81A & CMK81B

Public Services Endorsement

PS EDUCATION & TRAINING CLUSTER

HUMAN GROWTH AND DEVELOPMENT

An introduction to developmental psychology, the course explores the different stages of human life – Prenatal, Infancy, Childhood, Adolescence, Adulthood – and the biological, psychological and social changes occurring in individuals during them. Topics include: theories of development, genetics and development, birth and the neonate, cognitive and brain development, early experience, attachment, motor & language development, social, moral development, aging and death.

Schools: NHS, SWHS, SHS
 Grades: 10-12
 Credit/Course ID: 1 / 13014300 / CET11A & CET11B

INSTRUCTIONAL PRACTICES

Changing lives in real classrooms could be in your future! If you are ready to teach and get hands-on experience working with children, then this is the course for you. You will be assigned to an off-campus school and will get practical experience working beside a certified teacher. Students have a choice of working with kindergarten through middle school. If you are thinking about a career related to children and/or teaching, this is definitely the course for you.

Schools: MHS, NHS, SHS
 Grades: 11-12
 Credit/Course ID: 2 / 13014400 / CET12A & CET12B

EDUCATION AND TRAINING PRACTICUM

This field-based internship focuses on child and adolescent development principles as well as principles of effective teaching and training practices under the joint direction and supervision of teacher with knowledge of early childhood, elementary, middle and high school aged students. You will be able to plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and complete other responsibilities of classroom teachers, trainers, paraprofessionals, and educational personnel.

Prerequisite: Successful completion of Instructional Practices or Child Guidance
 Schools: MHS, NHS, SWHS, SHS
 Grade: 12
 Credit/Course ID: 2 / 13014500 / CET82A & CET82B
 Technical Certification: Educational Aide

PS HEALTH SCIENCE CLUSTER

ANATOMY AND PHYSIOLOGY

(State-Approved Advanced Science Course)
 If you are interested in the way the body moves, then Anatomy and Physiology is the class for you. You will discover the structures and functions of the human body and body systems, and will investigate the body's responses to forces, maintenance of homeostasis, electrical interactions, transport systems, and energy processes.
 Recommended Prerequisite: Two years of Science

Schools: MHS, NHS, SWHS, WAIS
 Grades: 10-12
 Credit/Course ID: 1 / 13020600 / CHS70A & CHS70B

PRINCIPLES OF HEALTH SCIENCE 1

In our ever changing world, one thing is constant – the need for Health Care Providers. The “Baby Boomers” are retiring and the need for new recruits is critical! You will be helping mankind. Sign up for Principles of Health Science to learn about the exciting opportunities in the Health Care Industry. Come, have fun in developing your new vocabulary of Medical Terminology. You will be able to interpret what the health care professionals are really saying.

Schools: AOC, MHS, NHS, SWHS, SHS
 Grades: 9-10
 Credit/Course ID: 1 / 13020200 / CHS10A & CHS10B

HEALTH SCIENCE THEORY no/CLINICAL and PHARMACOLOGY

Health Science Theory is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. This course will include an overview of safety practices and government regulations, pharmacy-related medical terminology, standards of infection control, and ethical/legal issues in healthcare. American Red Cross First Aid/CPR/AED certification will be obtained. The Pharmacology course is designed to study how natural and synthetic chemical agents such as drugs affect biological systems. Knowledge of the properties of therapeutic agents is vital in providing quality health care. It is an ever-changing, growing body of information that continually demands greater amounts of time and education from health care workers

These courses must be taken concurrently.
 Prerequisite: Successful completion of Principles of Health Science 1 and Biology
 Schools: Guthrie
 Grades: 11-12
 Credit/Course ID: 1 / 13020400 / CTHS12 and 1 / 13020950 / CTHS22
 Technical Certifications Attainable: Red Cross First Aid/CPR/AED

HEALTH SCIENCE THEORY w/CLINICAL

During the 2nd year of Health Science you will be in awe as you venture into the hospital for observation of real professionals and real patients. There is a thrill of really “being there.” You will learn the importance of confidentiality, compassion, ethics and the vast world of medicine.

Prerequisite: Successful completion of Principles of Health Science 1 and Biology
 Schools: MHS, NHS, SWHS, SHS
 Grades: 11-12
 Credit/Course ID: 2 / 13020410 / CHS12A & CHS12B

HEALTH SCIENCE—PRACTICUM

During the 3rd year of Health Science you will actually work every day of the week in a hospital. It will be worked into your school schedule. You will rotate through different departments of the hospital throughout the year. You will get “hands-on experience” using the skills you were taught in Health Science and feel like part of the hospital team!

Prerequisite: Successful completion of Health Science Theory w/Clinical
 Schools: MHS, NHS, SWHS, SHS
 Grades: 12
 Credit/Course ID: 2 / 13020500 / CHS82A & CHS82B

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EXTENDED PRACTICUM IN HEALTH SCIENCE

This course is the additional credit for students taking the Health Science Practicum wanting to go deeper into the practical applications in Health Science.

Prerequisite: Successful completion of Health Science Theory w/Clinical

Schools: SWHS

Grades: 12

Credit/Course ID: 3 / 13020505 / CHS82C & CHS82D

MEDICAL MICROBIOLOGY

(State-Approved Advanced Science Course)

In Medical Microbiology you will identify the relationships of microorganisms to wellness and disease. You will learn how to prevent diseases by learning the chain of infection, asepsis, and standard precautions. You will get to investigate and find out the differences between pathogenic and nonpathogenic organisms and how they relate to specific diseases, causative agents, and treatment options.

Recommended Prerequisite: Successful completion of two years of Science

Schools: NHS, SWHS, WAIS

Grades: 10-12

Credit/Course ID: 1 / 13020700 / CTHS71

MEDICAL TERMINOLOGY

This course is designed as an introduction to the medical field. Students develop a working knowledge of the language of medicine. By relating terms to body systems, students identify proper use of words in a medical environment. Knowledge of medical terminology enhances the student's ability to successfully secure employment or pursue advanced education in health care.

Schools: SWHS

Grades: 9-12

Credit/Course ID: 1 / 13020300 / CHS11A & CHS11B

PATHOPHYSIOLOGY

(State-Approved Advanced Science Course)

In Pathophysiology you will learn how the disease processes affect the human systems. Emphasis is placed on prevention and treatment of diseases. You will observe the differences between normal and abnormal physiology in a lab setting.

Recommended Prerequisite: Successful completion of two years of Science

Schools: NHS, SWHS, WAIS

Grades: 11-12

Credit/Course ID: 1 / 13020800 / CTHS72

PHARMACY TECHNICIAN—PRACTICUM

Interested in the Pharmaceutical field? This is the class for you! You will learn the technical and knowledge base skills and work habits required for an entry level position in the pharmacy field or other related areas. On successful completion of this course and graduation you will have the opportunity to sit for the Pharmacy Technician Certification Exam (PTCE). This capstone course is designed for those students pursuing a Pharmacy Tech certification.

Prerequisite: Successful completion of Health Science Theory/no Clinical and Pharmacology; or Health Science Theory w/Clinical; Biology; and Anatomy and Physiology

Schools: Guthrie

Grades: 12

Credit/Course ID: 2 / 13020500 / CHS92A & CHS92

Technical Certifications: Pharmacy Technician (PTCE) and National Sterile Products (IV) Certification



HUMAN SERVICES CLUSTER

CHILD DEVELOPMENT

This course provides individuals opportunities to develop knowledge and skills to function effectively in the role of a parent or caregiver. Content stresses parental responsibilities, child guidance techniques, and parents as positive role models. Parenting practices that promote a child's development, health, safety and well-being are taught.

Schools: NHS, SHS

Grades: 10-12

Credit/Course ID: 1 / 13024700 / CTHU15A & CTHU15B

CHILD GUIDANCE

Enjoy kids? Then get ready for a real experience. This is a "hands-on" course that provides a chance to work with very young children. High school students receive practical experience while working at one of the district's pre-kindergarten centers three days a week. You will work with children in the PreK program between 4-5 years of age.

Schools: SWHS

Grades: 11-12

Credit/Course ID: 2 / 13024800 / CHU16A & CHU16B

COSMETOLOGY 1 w/LAB

This program offers hands-on training, amazing guest artists, study trips and a self-paced curriculum focused on competitions, salon skills, and the Texas Cosmetology State Examination. Students are responsible for Texas Department Licensing Registration fee and supplies.

Schools: Guthrie

Grades: 11

Credit/Course ID: 3 / 13025210 / CHU19A & CHU19B

COSMETOLOGY 2 w/LAB

Graduate from high school with your Texas Cosmetology State License! Maximize skills and theory learned in Cosmetology 1 through an intense focus on industry readiness and the Texas Cosmetology State Licensing Examination. Upon successful completion of Cosmetology 2, you will have an opportunity to obtain your Texas Cosmetology State License by passing written and practical examinations to earn your license. You are responsible for State Licensing Examination fees and supplies.

Prerequisite: Successful completion of Cosmetology 1 with 500 clock hours.

Schools: Guthrie

Grades: 12

Credit/Course ID: 3 / 13025310 / CHU29A & CHU29B

Technical Certification: Texas Cosmetology Operators License

INTERPERSONAL STUDIES

Examine how the relationships between individuals and family members significantly affect the quality of life. Explore the functions and roles of dating and analyze components of a successful marriage. The students will follow directions and procedures independently and within a group setting to explore careers.

Schools: NHS, SHS

Grades: 9-12

Credit/Course ID: .5 / 13024400 / CTHU12

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LIFETIME NUTRITION AND WELLNESS

"What's for Dinner?" Students will learn how to plan and prepare healthy food choices for themselves and their families. Special dietary needs, food safety and sanitation, meal etiquette and career opportunities in food industry are covered. Students prepare a variety of foods during the lab time.

Schools: NHS, SHS

Grades: 9-12

Credit/Course ID: .5 / 13024500 / CTHU13

PRINCIPLES OF HUMAN SERVICES

This class touches on topics related to nutrition, early child development, family and community development, personal care services and consumerism. Hands-on projects are emphasized in a lab setting to expose you to the many areas of study you can take in the Human Services cluster.

Schools: AOC, SHS

Grades: 9-12

Credit/Course ID: 1 / 13024200 / CTHU10A & CTHU10B



LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY CLUSTER

EMERGENCY MEDICAL TECHNICIAN BASIC (EMT-B)

The EMT-Basic course provides an introduction to the concepts, knowledge and skills needed by EMTs in the areas of communications, transportation, and record-keeping.

Schools: NHS for Firefighter students

Grades: 12

Credit/Course ID: 1 / N1303015 / CLW55A & CLW55B

FIREFIGHTER 1

Interested in becoming firefighter, this class is for you. This course introduces students to firefighter safety and development. Students will understand Texas Commission on Fire Protection (TCFP) rules and regulations, proper incident reporting and records, the proper use of personal protective equipment, and the principles of fire science. The instructor uses both academic study and applied instruction to achieve measurable results. Students participate in structured, applied learning activities. Students in the course may work towards certification in Fire Science.

Schools: NHS

Grades: 11

Credit/Course ID: 2 / 13029900 / CLW15A & CLW15B

FIREFIGHTER 2

In this 2nd level course you will continue learning what is needed to take the Firefighter 1 Certification test and skills necessary to provide emergency medical care at a basic life support level with an ambulance service. This course is designed for anyone interested in working in public safety, including fire, police, and ambulance operations. Students in the course may work towards certification in Fire Science.

Prerequisite: Successful completion of Firefighter 1

Schools: NHS

Grades: 12

Credit/Course ID: 3 / 13030000 / CLW25A & CLW25B

FORENSIC SCIENCE

(State-Approved Advanced Science Course)

Connect science to law and find out what it takes to solve crimes. If you like watching CSI and other true crime shows, then this course is for you. Find out what science can and cannot do in crime fighting. Is it real or just TV? You might be surprised!

Prerequisites: Successful completion of Biology and Chemistry

Recommended Prerequisite: Law Enforcement 1

Schools: Guthrie, MHS, SWHS

Grades: 11-12

Credit/Course ID: 1 / 13029500 / CTL50A & CTL50B

FORENSIC SCIENCE AT GUTHRIE

(State-Approved Advanced Science Course)

Connect science to law and find out what it takes to solve crimes. If you like watching CSI and other true crime shows, then this course is for you. Find out what science can and cannot do in crime fighting.

Prerequisites: Successful completion of Biology and Chemistry

Recommended Prerequisite: Law Enforcement 1/Court Systems and Practices

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13029500 / CTLW50

LAW ENFORCEMENT 1 *and* COURT SYSTEMS AND PRACTICES

What is the "Thin Blue Line"? Explore the history, organization, and function of local, state, and federal law enforcement. Explore Constitutional law, the U.S. legal system, criminal law, law enforcement terminology and methods, and the classification and elements of crimes. Court Systems and Practices is an overview of the federal and state court systems with emphasis on Constitutional law for criminal procedures, as well as civil law. Preparation and delivery of both prosecution and defense legal strategies are explored in a classroom and courtroom environment.

These courses must be taken concurrently.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 13029300 / CTLW11 *and*

1 / 13029600 / CTLW12

LAW ENFORCEMENT 2 *and* CRIMINAL INVESTIGATION

Law Enforcement 2 has you digging deeper into the daily aspects of policing. What does it really mean to protect and serve? Learn the day-to-day challenges faced in protecting and serving people. This course includes the ethical and legal responsibilities, operation of police and emergency telecommunication equipment, and courtroom testimony. Criminal Investigation introduces you to the career and understand the basic functions, procedures and following up during investigations, terminology and investigative procedures in crime scene processing, evidence collection, fingerprinting, and courtroom presentation. Case studies and simulated crime scenes for collecting and analyzing evidence.

These courses must be taken concurrently.

Prerequisites: Successful completion of Law Enforcement 1

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / 13029400 / CTLW21 *and*

1 / 13029550 / CTLW22

2018-2019 CAREER & TECHNICAL EDUCATION CLASSES

LEGAL RESEARCH AND WRITING

Interested in what happens in the legal field? This course is designed to introduce students to the methods and tools used to conduct legal research to include LexisNexis; learn how to develop and frame legal arguments; produce legal writings such as briefs, memorandums, and other legal documents; study American Constitutional law; and prepare for appellate arguments.

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 1 / N1303014 / CTLW52



NAVY JUNIOR RESERVE OFFICERS TRAINING CORPS

NAVAL SCIENCE

The NJROTC program was established by Public Law in 1964, is taught by instructors who are retired Navy, Marine Corps, and Coast Guard officers and enlisted personnel. The NJROTC accredited curriculum emphasizes citizenship and leadership development, as well as our maritime heritage, the significance of sea power, and naval topics such as the fundamentals of naval operations, seamanship, navigation and meteorology. Classroom instruction is augmented throughout the year by extra-curricular activities of community service, academic, athletic, drill and orienteering competitions, field meets, flights, visits to naval bases and other activities, marksmanship sports training, and physical fitness training.

The first year class introduces students to the meaning of citizenship, the elements of leadership, and the value of scholarship in attaining life goals; promote an awareness of the importance of a healthy lifestyle, including physical fitness, a proper diet, and controlling stress; drug awareness; provide the principles of health and first aid, geography and survival skills and an overview of Naval ships and aircraft. These elements are pursued at the fundamental level. The second year class further develops the traits of citizenship and leadership, and introduces cadets to the technical areas of naval science and the role of the U. S. Navy in maritime history. Naval Science 3 enhances understanding of principles of military leadership, the concept and significance of teamwork, the intrinsic value of good order and discipline in the accomplishment of objectives, and the importance of sea power and national security. Students gain a more in-depth knowledge of naval ships and aircraft and an introduction to marine navigation and seamanship. Students taking the 4th year class are focused on practical leadership techniques and implementation. The intent is to assist seniors in improving their leadership skills by putting them in positions of supervised leadership and helping them analyze the reasons for their varying degrees of success throughout the year. Seniors are mentored/guided in their preparation for life after high school to include college preparation, scholarship applications, and the variety of choices that are available to them.

NJROTC cadets participate in a number of outside, or extra-curricular, activities throughout the school year and during the summer months. These opportunities are designed to stimulate learning by hands-on experience and to reinforce classroom instruction. Technical Certifications available include American Red Cross First Aid, CPR and AED. If a student enlists in the military, a pay grade increase can be earned after 2 years in the program.

NAVAL SCIENCE 1

Includes introduction to the NJROTC program; introduction to Leadership, Citizenship and the American Government; introduction to Wellness, Fitness, and First Aid to include diet, exercise and drug awareness, introduction to Geography, Orienteering, Survival and Map Reading Skills; Financial Skills and introduction to the U. S. Navy.

Year 1 satisfies one credit of PE.

Schools: Guthrie

Grades: 9-12

Credit/Course ID: 1 / 03160100 / NS102A/B;
1 / 03820101 / HP134A/B

NAVAL SCIENCE 2

Includes ongoing instruction into Leadership; introduction to Maritime History, including the American Revolution, Civil War, the rise of the U. S. to world power status, World Wars 1 and 2, the Cold War Era and the 1990s and Beyond; introduction to Nautical Sciences to include Maritime Geography, Oceanography, Meteorology, Astronomy, and Physical Sciences.

Schools: Guthrie

Grades: 10-12

Credit/Course ID: 1 / 03160200 / NS202A/B;
1 / N1290010 / ADNS2A/B

NAVAL SCIENCE 3

Includes instruction in Sea Power and National Security, Naval Operations and Support Functions, Military Law, and International Law and the Sea. Provides introduction to Ship Construction and Damage Control, Shipboard Organization and Watch Standing, Basic Seamanship, Marine Navigation, and Naval Weapons and Aircraft. Ongoing instruction in leadership, citizenship and discipline.

Schools: Guthrie

Grades 11-12

Credit/Course ID: 2 / 03160300 / NS302A & NS302B

NAVAL SCIENCE 4

Includes instruction in theoretical and applied aspects of leadership, training, and evaluation of performance. Students will become aware of the techniques used to create motivation, develop goals and activities for a work group, and the proper ways to set a leadership example. Students are provided access to ACT/SAT prep courses, guidance in selecting a college and pursuing available scholarships, and mentoring in establishing long range life goals.

Schools: Guthrie

Grades: 12

Credit/Course ID: 2 / 03160400 / NS402A & NS402B

Military Pay Grade Increase Upon Enlistment (earned after 2 years)



CAREER DEVELOPMENT

CAREER PREPARATION

This course provides opportunities for you to participate in a learning experience that combines classroom instruction with paid business and industry employment experiences and supports strong partnerships among school, business, and community stakeholders.

2018-2019 CAREER & TECHNICAL EDUCATION CLASSES

You will also identify colleges that support the degree or certification that is required for a successful career in your field. The goal is to prepare students with “soft skills” required for employment and for a fast-changing workplace.

Technical Certification: ACT National Career Readiness Work Keys

Schools: SWHS, SHS

Grades: 11-12

Career Preparation 1: 2 credits CCP81A & CCP81B

Extended Career Preparation 1: 3 credits CCP81C & CCP81D

Schools: SWHS, SHS

Grade: 12

Career Preparation 2: 2 credits CCP91A & CCP91B

Extended Career Preparation 2: 3 credits CCP91C & CCP91D



GUTHRIE INTERNSHIPS: AN OPTION FOR YOUR PATHWAY

An Internship is a clearly defined, short-term, work and learning experience to intensify preparation for a specific career field. Through targeted learning goals, supervision and evaluation, Guthrie interns apply their technical knowledge to actual work experiences. This serves to both enhance the student’s education while adding value to the employer since interns typically work alongside practicing professional as they tackle projects and challenges on a daily basis. Interns are juniors and seniors who are enrolled in specific course, focused and/or possess high-level technical skills. An internship can be the pivotal point for students to reach their T-2-4 option of choice.

Internship placements are based on the student’s previous electives and what they desire to study in college or employment in a career after graduation. Interns benefit by working in their specific area of interest while continuing their technical education. Students observe all aspects of the company’s operations to discover how what they learn in school is applied in the workplace.

Many employers write outstanding letters of recommendations for the intern’s college applications, offer financial scholarships for college and may extend full-time employment pending completion of their education.

This course provides opportunities for you to participate in a learning experience that combines classroom instruction with paid business and industry employment experiences and supports strong partnerships among school, business, and community stakeholders. You will also identify colleges that support the degree or certification that is required for a successful career in your field. The goal is to prepare students with “soft skills” required for employment and for a fast-changing workplace.

Technical Certification: ACT National Career Readiness Work Keys

INTERNSHIP 1

Schools: Guthrie

Grades: 11-12

Credit/Course ID: 2 / 12701300 / CPG81A & CPG81B

3 / 12701305 / CPG81C & CPG81D

INTERNSHIP 2

Schools: Guthrie

Grade: 12

Credit/Course ID: 2 / 12701400 / CPG91A & CPG91B

3 / 12701405 / CPG91C & CPG91D