ACADEMIC PLANNING GUIDE
2021-2022

FRIENDSWOOD HIGH SCHOOL

ACADEMIC PLANNING GUIDE

2021 - 2022

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Career & Technical Education

Planning your High School Curriculum

Planning a four-year school program is a serious undertaking. The FHS Academic Planning Guide is designed to assist you in making informed decisions regarding your education. Although many of your courses will be determined by the graduation plan selected, you will still have many other choices to make during your years of high school. The courses you select will be guided largely by your plans for the future. Will you continue your education in college or in a trade or technical school? Do you want to learn a career skill in order to enter the full-time work force immediately after school? Are you interested in a technical field? Are you thinking of entering a profession which requires years of specialized education? The answers to these questions are extremely important for making decisions about your course selections. Your interests and abilities should also guide these answers.

Students will be required to graduate under the Texas High School requirements, which are shared on the following pages of this guide. Students who intend to enroll in our most rigorous courses may want to complete the distinguished requirements and/or performance acknowledgments, which require additional coursework. A more detailed explanation can be found on the following pages.

The first section of this guide provides important foundation information on which to begin building your course selections. The remaining pages offer guidance in each specific subject area, which includes course descriptions, prerequisites, course credits, and sequence charts.

It is common for young people to change their minds about which career to choose. For this reason, it is important for you to plan as challenging a program as you can. If your career plans should change, then it will not be as difficult to move into another program. While it may sometimes seem tempting to schedule a less demanding combination of courses, choosing courses that meet your needs or interests is the best way to prepare for your future. By planning wisely, you can create the future most appropriate for you.

Educational Planning:
College Timeline

Grade 8

_____ Consult 8th grade counselor and teachers for appropriate course selections.
_____ Choose the most appropriate graduation plan with endorsement for your proposed post-high school endeavors.
_____ Attend student/parent programs for high school/college planning.

Grade 9 – Freshman Year

_____ Review your high school program of studies with your parents.
_____ Request college catalogs from colleges of interest to you and plan your high school program of studies accordingly.
_____ Begin researching your career choices and the educational requirements of each.
_____ Participate in a variety of extracurricular activities.
_____ Check out Naviance Career Explorations.
_____ Meet with college representatives as they visit your school.
_____ Begin building your résumé in Naviance Family Connection.

Grade 10 – Sophomore Year

_____ Check credits to make sure you are on schedule for graduation requirements.
_____ Check to make sure your courses meet college entrance requirements.
_____ Take the *PSAT/NMSQT. On the test form, check the box which will put you on the mailing list for college information.
_____ Plan to attend the College and Career Fair during the fall semester.
_____ Explore opportunities for college dual-enrollment credit.
_____ Meet with college representatives as they visit your school.
_____ Seek ways to develop your leadership skills.
_____ Continue building your résumé in Naviance Family Connection.

Grade 11 - Junior Year

SPRING OF JUNIOR YEAR
____ Research colleges using Naviance College Search and Super Match.
____ Schedule your two allowed college visits for junior year and meet with college representatives on campus.
____ Take the SAT and ACT exams.
____ Work on your resume in Naviance.
____ Work on your Brag Sheet in Naviance.
____ Refer back to handouts and presentation received during counselor junior class visits.
____ See your counselor if you have any questions.

SUMMER AFTER JUNIOR YEAR
____ If applying to a Texas public school, complete the Apply Texas application.
____ If applying to private or out of state school, complete the Common Application and link to Naviance account.
____ Write college application essays, if applicable.
____ Finish your Brag Sheet in Naviance.
____ Finish your Resume in Naviance.
____ Narrow your college choices and enter in Naviance.

Grade 12 - Senior Year

FALL OF SENIOR YEAR
____ Plan to attend the FISD/PISD College Fair.
____ Schedule your two allowed college visits for senior year and meet with college representatives on campus.
____ Retake the SAT and ACT, as needed. Send scores to the college(s) through your College Board or ACT account.
____ Request letters of recommendation in person. Enter these requests in Naviance.
____ Order transcripts through Naviance and pay in the Registrar's office for them to be sent.
____ Finish and submit all college applications by appropriate deadline.
____ Complete the FAFSA application beginning October 1.
____ Begin researching and applying for scholarships.
____ Refer to handouts and presentation from counselor senior class visits.
____ See your counselor if you have any questions.

SPRING OF SENIOR YEAR
____ Request mid-year transcripts through Naviance, if needed, and pay in the registrar's office.
____ Continue to research and apply for scholarships.
____ Report the college you will be attending and all scholarships awarded on the Graduation Survey in Naviance.
____ See your counselor if you have any questions.

All of this information and more specific details are located on the FHS Counseling Center website:
https://myfisd.com/hs/support-teams/counseling-center/

Texas Education Agency Graduation Toolkit Information - Workforce Resources

Career

If you are considering going straight into the workforce or into a technical training program following graduation, you still need to complete your high school education and earn a high school diploma.

While in high school, you will want to:

Look at the five endorsements offered under the Foundation High School Program.

Determine your area of interest.

Complete your selected endorsement along with the required Foundation Program to earn your high school diploma.

Learn about available jobs and any required post-high school or technical training.

Explore new career opportunities.

Research wage and occupation information, required levels of education and training requirements.

Discover your interests and abilities; use labor market resources at www.texasrealitycheck.com/ and www.texasworkforce.org/customers/jsemp/career-exploration-trends.html.

Research which jobs are among the fastest and most in-demand in Texas at www.texascaresonline.com/hotshotslists.asp.

Community College & Career Schools

Find training and certification for specific occupations or skills through community colleges or career schools and colleges at www.texasworkforce.org/svcs/propschools/career-schools-colleges.html

Did you know...

Training-many of the high-demand jobs will require some postsecondary education?

Credentials - Texas public school students can earn a Performance Acknowledgement with their diploma by earning a nationally or internationally recognized credential for a specific professional occupation, such as a Pharmacy Technician or Microsoft Office (MOS)?

Tuition-students attending community colleges or trade schools may be eligible for state or federal financial aid?

Earnings-over their lifetime, high school graduates with a workforce certificate from a community or technical college earn 20 percent more than those with only a high school diploma?

Naviance Online Family Connection
Focus on the Future...

Naviance Family Connection is a web-based service designed especially for students and parents. Naviance Family connection is a comprehensive website you can use to help in making decisions about colleges, scholarships and careers. Naviance Family Connection is linked with Counselor's Office, a service that is used to track and analyze data about college and career plans. It provides up-to-date information specific to your school.

Throughout your high school experience, you and your parent will use your Naviance account to:

- Build a resume - ability to track information to build a robust resume.
- Apply for scholarships - Check the most up-to-date list of scholarships which are local, state and national level.
- Request letters of recommendations from teachers - by accessing resumes and brag sheets, among other information, teachers are able to write thorough letters of recommendation.
- Research colleges - Compare GPA, standardized test scores, and other statistics to actual historical data from the school for students who have applied and been admitted in the past.
- College SuperMatch - When students are just beginning their college search process, it can be overwhelming and they may not know where to start. But with SuperMatch and other college search tools in Naviance, students can get matched from over 20 search criteria that will help them find colleges that are the right fit for them. Then, they can research the resulting schools and add them to their "Colleges I'm Thinking About" list.
- My Planner - allows for students to utilize a calendar, outline career and academic goals, and review tasks assigned by the counselors (in relation to college application process)
- Sign up for college visits - Find out which colleges are visiting the school and attend those sessions.
- Get involved in the planning and advising process - Build a resume, complete on-line surveys, manage timelines and deadlines for making decisions about colleges and careers, order transcripts.
- Strengths Explorer - Helps uncover student's talents and reveal potential strength.
- Take a Learning Style Inventory - The innovative Learning Style Inventory gives important insights about how students learn in order to help each student achieve maximum potential. The tool assesses the following dimensions which affect a student's learning: Immediate environment, Emotionality, Sociological needs, and Physical needs.
- Research careers - Naviance Family Connection offers the "Career Interest Profiler" as an online career interest assessment for students. The "Do What You Are" feature begins with a personality inventory and concludes with a report describing the student's personality type, potential careers, and related majors. Students may also link directly to the college database to find colleges that offer an educational path to each career. Students may watch and discover over 3,500 video archives through "Road Trip Nation" of various leaders across the country who have built their lives around their interests.

Getting Started in Naviance

1. Log into your FISD gmail account.
2. Go to www.myfisd.com
3. Click on the Parents & Students tab
4. Scroll down to Naviance HS.
5. You will be prompted to choose your user type – choose Student.
6. Then you will choose Continue with Single Sign On.
7. Your username is your FISD gmail address

Naviance Family Connection also allows information to be shared with you about meetings and events, local scholarship opportunities, and other web resources for college and career information. You can also use the site to send your counselor an e-mail message. Naviance Family Connection is a resourceful tool. If you have further questions about Naviance Family Connection, please contact your guidance counselor.

Students with last name A - EQ kcawthorn@fisdk12.net
Students with last name ER - LA swright@fisdk12.net
Students with last name LE - RH lbatiste@fisdk12.net
Students with last name RI - Z mhickman@fisdk12.net

Credit Requirements

Local vs State Credit

State credit means the State of Texas recognizes the course for credit. Local credit is awarded to students taking courses that are locally approved and are not recognized by TEA for graduation.

Students involved in extracurricular activities must be enrolled in five classes that are state or local credits -

Exception: Teacher Aide, Senior Mentor and Lab Management do not count toward the five.

High School Courses Taught at Junior High

High school credit courses taken at junior high are not included in GPA or class ranking, but are reflected on the high school transcript.

Classification

Grade level classifications for students in grades 10-12 shall be earned by course credits. All students entering high school for their first year will be classified as a freshman. High school credits earned prior to entering high school will count in students educational record.

Changes in grade level classification shall be made at the beginning of the fall semester, for students in grades 10-12. Students keep their classification for the entire year except those students who move to the senior level for graduation purposes.

Classification	Credits
Freshman	Less than 6
Sophomore	6 - 12
Junior	12.5 - 18.5
Senior	19+

Academic Achievement

Based on a weighted eight-point scale

NUMERICAL GRADE	MODIFIED CURRICULUM	REGULAR CURRICULUM	MUSTANG ADVANCED PROGRAM	ADVANCED PLACEMENT
95 – 100	7	8	9	9.25
90 – 94	6	7	8	8.25
85 – 89	5	6	7	7.25
80 – 84	4	5	6	6.25
75 – 79	3	4	5	4.00
70 – 74	2	3	3	3.00
60 – 69	1	2	2	2.00
50 – 59	0	1	1	1.00
BELOW 50	0	0	0	0.00

A student's weighted academic achievement will be determined by dividing the total number of semester grade points by the number of grades accumulated during grades 9 – 12, for all eligible courses, as per Board Policy EIC (Local).

The following courses will NOT be included in a student's weighted academic achievement calculation:

1. Correspondence and Texas Virtual School Network courses, or;

2. Credit by exam or CLEP exams, or;

3. Dual credit courses taken outside the graduation requirements, or;

4. On-line courses, or on-line dual credit courses, or;

5. Summer school courses, or;

6. DAEP independent study courses, or;

7. Local credit courses, or;

8. Pass/Fail option courses, or;

9. Credit Recovery courses.

All academic achievement calculations will be based on the guidelines set forth in the Academic Planning Guide for the student's freshman year.

Class rank will be reported **ONLY** for the Top Ten percent to an institute of higher learning as an exact rank or as a percentile as requested by the student or university.

Students in grades 9-12 will have their Cumulative GPA printed on the final report card for the school year. This report card can be found in Skyward Family Access.

Dual Credit and PLTW courses will count for Mustang Advanced Program (MAP) weight.
Workforce Dual Credit courses are not considered MAP weight. They will count for regular weight in a student's GPA.

GPA Waiver (Pass Option)

Friendswood ISD high school students may pursue a GPA Waiver (Pass Option) for qualifying elective courses. This option allows students who receive an "A" (90-100) average in a qualifying elective class to request that it be converted to credit with no grade points.
Classes that qualify for the GPA Waiver (Pass Option) option require a heavy commitment outside the school day and adhere to University Interscholastic League "No Pass, No Play" guidelines. GPA Waiver (Pass Option) grades are not included in a student's grade point average.

Through the GPA Waiver (Pass Option), Friendswood ISD hopes to boost participation in athletics and fine arts, creating well-rounded students at all achievement levels.

Guidelines:

- For a student to be eligible to use this waiver as course credit, a student must earn an "A (90-100)" in both semesters.
- Two GPA Waivers (Pass Option) are allowed per school year.
- Students must submit the GPA Waiver form with student, parent and counselor signatures to the counseling office no later than October 1st of the school year the course is being taken to apply.
- Students who choose the GPA Waiver (Pass Option) will not receive grade points for the class.
- Students using the GPA waiver MUST have successfully completed 9th grade and **BOTH** the state Fine Arts and PE credits.

If the student has already obtained his/her Fine Arts and Physical Education credit prior to participating in this course, and if the student has completed all the requirements for the course, the student may select the number grade (90-100) OR Pass/Fail for the course. Once the choice has been made and the number grade or Pass/Fail is entered, the student may not change this option per TEA guidelines.

Qualifying Electives:

- Athletics
- Band
- Cheer
- Choir (excludes AP Music Theory)
- Color Guard/Winter Guard
- Drill Team/Dance
- Theatre Arts/Technical Theatre

Information and Waiver Form will be presented in qualifying elective courses.

Honors: Valedictorian, Salutatorian, Honor Graduates

Honors: Valedictorian and Salutatorian

The students with the highest and second highest grade averages shall be designated as valedictorian and salutatorian respectively, provided they meet the residency requirements.

To be eligible for the honor of valedictorian and salutatorian, a student must be enrolled continuously in the District beginning no later than the first Friday following Labor Day of the sophomore year.

Students who graduate in fewer than or more than four years shall not be eligible for the State of Texas Honor Graduate Certificate for the highest-ranking graduate, valedictorian or salutatorian.

In the event that two or more students in contention for valedictorian or salutatorian have the same grade point average, the student who has taken the most advanced placement courses will be named.

For graduation honors (Valedictorian and Salutatorian), a student's scholastic rank will be determined by dividing the total number of semester grade points by the number of grades accumulated for all eligible courses, during grades 9-12.

See Board Policy EIC Local"

Top 10% Honor Graduates

Honor graduates will be the top 10% of the senior class by rank in grade point average. A student's top ten percent scholastic rank in his/her graduating class shall be determined by the numerical average based on the total eligible coursework during the grades 9,10, and 11 and shall include the first three grading periods of the grade 12 year.

Students who have earned graduation honors (Valedictorian and Salutatorian) must have completed all course work required by Friendswood High School for graduation and the grade received by the school by the last teacher the day before graduation.

Other Scholastic Awards

Other scholastic awards, including Academic and Athletic Letter Jackets is set up by the principal and staff approved by the Assistant Superintendent of Curriculum.

Course Selection and Schedule Changes

Every year students register for classes that they will need the following year. It is important for students to plan their choices carefully because class size and staffing decisions will be determined from their choices. Choose your courses with this in mind because there will be no schedule changes other than errors in scheduling. Every effort will be made to schedule requested courses.

TEKS Based Instruction

Friendswood High School courses are guided by the Texas Essential Knowledge and Skills (TEKS). Class changes that result in gaps in the TEKS will not be approved. Semester credit cannot be gained unless the opportunity to meet all TEKS for a specific course is present.

Schedule Changes

All elective changes must be requested and processed 5 school days prior to the first day of school. Once school starts, schedule changes will only be considered for the fol-lowing reasons and must take place within the first 10 days of school:

1. Student is a senior and not scheduled in a course needed for graduation.
2. Student has already earned credit for a course in which he/she is currently scheduled.
3. Student does not have the rerequisite(s) for a class listed on schedule.
4. There is a data entry error (class entered twice, free period, etc.)

Level Changes – MAP & AP

There will be NO schedule changes out of MAP/AP classes until the end of the first six-week grading period.

When there is no appropriate level to move down to, students in MAP/AP classes must stay until the end of the semester.

The grade earned in the MAP/AP course will be transferred to the regular course. Changes must be made within a 10-day window after the end of any grading period. This includes courses not required for graduation.

Top 10 Percent Rule for College Admissions

Students who are in the top 10 percent of their graduating class are eligible for automatic admission to any public university in Texas*.

To be eligible for automatic admission, a student must:

- Graduate in the top 10 percent of his or her class at a public or private high school in Texas, or
- Graduate in the top 10 percent of his or her class from a high school operated by the U.S. Department of Defense and be a Texas resident or eligible to pay resident tuition;
- Enroll in college no more than two years after graduating from high school; and
- Submit an application to a Texas public university for admission before the institution's application deadline (check with the university regarding specific deadlines).
- Students admitted through this route may still be required to provide SAT or ACT scores, although these scores are not used for admissions purposes. Students must also take the TSI assessment, unless exempted from the test requirement. Check with the admissions office regarding the TSI assessment, SAT, and ACT requirements);
- Students graduating under Foundation High School Program must earn an Endorsement and the Distinguished Level of Achievement in order to be eligible for the top 10% designation.

After a student is admitted, the university may review the student's high school records to determine if the student is prepared for college-level work. A student who needs additional preparation may be required to take a developmental, enrichment, or orientation course during the semester prior to the first semester of college.

Admission to a university does not guarantee acceptance into a particular college of study or department. Regardless of class ranking, all students are encouraged to apply to the college of their choice.

* SB 175, passed by the 81st Legislature, modifies the top 10 percent admissions program for The University of Texas at Austin. Automatic admit criteria will vary year-by-year, with remaining spaces to be filled through holistic review.

Alternate Credit Opportunities

Through alternative credit opportunities, no more than 4 High School credits (excluding Dual Credit) may be applied towards graduation requirement, except through the process of an application with your counselor and principal approval. **These alternate credit opportunities will not count toward class rank.**

Texas Virtual School Network

Friendswood ISD joined TxVSN, after the 80th Texas Legislative Session, Senate Bill 1788 established a state virtual school network to provide online courses for Texas students. The inaugural course catalog offered courses for grades 9-12 which were reviewed to ensure 100% alignment with the Texas Essential Knowledge and Skills as well as the National Standards of Quality for Online Courses. All high school courses are taught by a Texas-certified instructor in the course subject area and grade level, as well as completing a TxVSN approved professional development on effective online instruction. If interested in TxVSN see your counselor, and visit http://www.texasvirtualschool.org for additional information and frequently asked questions.

Summer School

Summer school credit will be awarded according to the same guidelines which apply to courses taken during the regular school year.

Credit-by-Exam/ Examination for Acceleration

Students may be given credit for an academic subject in which he or she has had no prior instruction if the student scores 80 percent on a criterion-referenced test for the applicable course. Information is available in the counselor's office. Must have counselor and parent approval to order Credit-By-Exam.

Correspondence Courses

Correspondence courses taken through a state approved extension program **must have counselor** and parent approval prior to registration. Correspondence course work will not be accepted without counselor signature and approval.

Students taking coursework that is a prerequisite for the upcoming school year must complete the course, full or half credit, before school starts. In addition, the final exam must be taken and the final grade received before the start of school. This will override the deadline given by Texas Tech University ISD or another correspondence program. If the course is not required for the upcoming school year, students will have the time allowed by the correspondence program to complete the coursework.

FOR SENIORS ONLY: Any courses that are required for graduation taken via correspondence MUST be completed by the first Monday in December in order to be posted to your FHS transcript and count towards graduation. If you are not finished by the first Monday in December, FHS will NOT accept the credit. Therefore, your options will be to: 1) take the class in the spring semester at FHS, even if you have already signed up and/or paid for the correspondence course, or 2) sign up and pay for FHS summer school immediately in order to not have the class placed in your spring semester schedule. Should you take this route, if you complete the correspondence course, before graduation, your summer school payment will be returned to you. *If the course is not offered in FHS summer school, then you will have to follow option #1, and the course will remain in your spring schedule. **If the course is not completed by graduation, you will not receive your diploma or have a final transcript to send to colleges, which could impact your college acceptance.

Note:
Fees may be required with some alternative credit opportunities.

Academic Dual Credit

General Information

A dual credit course is a college course taken by a high school student for which the student earns both college and high school credit. Some courses are taught at Friendswood High School by FHS teachers during school hours, other courses are taught on campus before and after school by COM teachers. Friendswood has cooperative arrangements with Alvin Community College, San Jacinto, and College of the Mainland. Classes taught at Friendswood High School are offered through College of the Mainland. Dual credit courses cover a blend of high school and college level subject matter. Discussions and required readings will cover topics discussed in college level courses. Participating in the dual credit program enables you to make substantial progress toward your college degree before finishing high school. Dual credit courses are also useful in fulfilling the performance acknowledgements for your graduation plan. Other advantages include:

1. Convenience, courses are taught at the high school campus, at the college, or online depending on the arrangements made with your high school.
2. Close to home, learn what college professors expect while still in familiar surroundings.
3. Student success, successful completion of college-level courses will aid in a successful transition to a college campus later.
4. Dual credit courses are intended for students who possess proven ability, interest and motivation to handle the extra workload and study requirements. The decision to take a dual credit course should not be taken lightly. It is strongly recommended any student considering dual credit course seek advice from his/her counselor and parent. When considering dual credit courses, students must carefully consider the extra time commitment the courses entail. Dual credit courses are demanding and require extensive homework and self-directed study. Therefore, a strong degree of motivational, organizational and time management skills are critical.

Enrollment Eligibility

1. For Dual Credit classes taught at Friendswood High School, you must meet the course prerequisites per course, have a minimum of a B overall average, and passed all the End of Course State assessments taken to date.
2. Meet established admissions requirements at the Junior College.
3. Comply with the state-mandated TSI program.
4. Take applicable placement tests prior to enrolling.
5. Attend mandatory advisement session with COM College Connections Advisor.
6. Complete the dual credit enrollment form, acquiring the appropriate school and parental signatures.
7. Pay the reduced costs associated with taking a dual credit college course.

Dual Credit Courses offered on campus during school hours

British Literature
Calculus for Business and Social Sci
College Algebra
English III
English IV
Math for Bus and Social Science w ALG
Math for Bus and Social Science w CAL
Practicum in Health Science-EMT
US History

Dual Credit Courses offered on campus before school hours

American Music
Psychology
Sociology
US Government 2305 (Federal)

Texas State Initiative Assessment (TSI) Requirements

The TSI Assessment is a college readiness test specifically designed to determine if students are ready for college-level coursework. There are TSI score requirements for placement into any dual credit courses. Details on specific testing requirements can be found on the College of the Mainland website at www.com.edu.

Workforce Dual Credit

The Texas Workforce Commission (TWC) partners with public junior colleges, public state colleges or public technical colleges under an agreement with school districts across the state to expand dual-credit and career and technical education programs through the use of Skills Development Funds and other resources.

Dual credit and technical education programs are funded in an effort to respond to industry demands for skilled workers in technical fields. High school students can enroll in postsecondary classes, while simultaneously completing high school coursework. This gives students the ability to get a jump-start on their education or career goals as they earn credits toward a degree or professional credential while still in school.

Enrollment Eligibility

1. For Workforce Dual Credit courses, your counselor must verify that you have met or be on track to meet ALL graduation requirements, that you have met the prerequisites per course, and that you have passed all the End of Course State assessments taken to date.
2. Meet established admission requirements at the Junior College.
3. Comply with the state-mandated TSI program.
4. Complete the Dual Credit Endorsement form acquiring the appropriate school and parental signatures.
5. Pay the costs associated with taking a dual credit college course.
6. Provide own transportation to and from the Junior College.
7. Workforce Dual Credit courses are recommended for Junior and Senior students only.

College of the Mainland Workforce Academy offers the following opportunities:

Cosmetology
Welding

For more information, go to https://www.com.edu/dual-credit-academy/ or contact your College Connection Advisor.

*Workforce Dual Credit courses are not considered MAP weight. They will count for regular weight in a student's GPA.

Concurrent Enrollment
Collegiate High School

Concurrent enrollment in a college is allowed for students who have met the established admission requirements at the college and comply with the state mandated TSI Assessment. Students must have written permission from the principal or counselor, and parent. No high school credit is granted towards graduation requirements. College hours may be earned in accordance with the college's rules and regulations.

Location:
All classes taken at College of the Mainland.
Goals:
All students will work toward high school graduation and associate degree requirements simultaneously.
Special application required.
There are fees associated with Collegiate High School.

Admission Requirements

- Be on grade level
- Have passing state assessment scores
- Seeking a foundation graduation plan with an endorsement
- Meet college entrance testing requirements

- Students can still participate in FHS extracurricular activities while enrolled in Collegiate High School.
- Students enrolled in Collegiate High School are not eligible for Friendswood High School's Valedictorian or Salutatorian.

SEE STUDENT'S COUNSELOR IF INTERESTED.

Mustang Advanced Program/Advanced Placement Course Expectations and Procedures

Friendswood High School participates in the Advanced Placement (AP) Program sponsored by College Board (www.collegeboard.com). Mustang Advanced Program (MAP) courses prepare learners for AP courses, which are equivalent to first year college courses and are intended for students who possess proven ability, interest, and motivation to handle the extra workload and study requirements. **The decision to take a MAP or AP course should not be taken lightly. It is strongly recommended any student considering MAP/AP courses seek advice from his/her counselor, parent(s), the course instructor, and current students enrolled in the particular AP course of interest. Student involvement in extracurricular activities should also be factored into MAP/AP course selection.**

When considering MAP/AP courses, students must carefully consider the extra time commitment the courses entail. By definition, MAP/AP courses are demanding and require extensive homework and self-directed study. Therefore, a strong degree of motivational, organizational and time management skills are critical. As a result, extra points are awarded onto a student's grade point average for every MAP and AP course taken.

When signing up for a MAP/AP level course, it is imperative to understand a schedule change will not be made until the end of the first six weeks, or when there is no appropriate level to move down, a change will not be made until the end of the first semester. Schedule changes will only be made with the approval of the principal, counselor, teacher and parent. The grade earned will appear on the report card.

AP courses prepare students for the Advanced Placement examinations given by College Board in May. An advanced score, determined by the individual universities, on an AP exam can result in a college or university awarding credit, exempting from courses, or advanced standing. It is the student's responsibility to research the individual colleges to better understand their policies in awarding AP credit. Please note there is a fee for each AP exam. Advanced Placement courses offered at Friendswood High School are listed below.

AP Courses Offered at Friendswood High School

AP English III
AP English IV
AP French IV
AP German IV
AP Latin IV
AP Spanish IV
AP Calculus AB
AP Calculus BC
AP Statistics

AP Biology
AP Chemistry
AP Environmental Science
AP Physics 1
AP Physics 2
AP Computer Science
AP Computer Science Principles

AP Music Theory
AP 2D Art and Design
AP 3D Art and Design
AP Drawing
AP Economics (Macro)
AP European History
AP Human Geography
AP United States Government
AP United States History
AP World History

When considering all MAP/AP and Weighted courses offered in this guide, please refer to these course expectations and procedures as they will apply to all these courses.

Graduation Requirements

As enacted by the 83rd Texas Legislature and the approval of the State Board of Education, House Bill 5 (HB5) created the Foundation High School Plan, with Endorsements, Distinguished Level of Achievement, and Performance Acknowledgements. The Foundation Plan consists of 22 credits plus an endorsement consisting of 4 elective courses, for a total of 26 credits.

Foundation Plan consists of 22 state credits:

- 4 English/Language Arts – Three credits must be ELA I, II, III and then an additional English course
- 3 Mathematics – Two credits must be Algebra I, Geometry, and then an additional Math course
- 3 Science – One credit must be Biology, one from either Integrated Physics & Chemistry or Chemisy; and then an additional Science course
- 3 Social Studies – Two credits must be US History, Government/Economics and then either World Geography or World History
- 2 Foreign Languages credits of the same language
- 1 Fine Arts
- 1 Physical Education
- 4 Electives
- one-half credit of Professional Communications (local requirement)
- one-half credit of Health (local requirement)

Each Endorsement consists of an additional 4 credits, for a total of 26 credits. These additional credits must include one additional Science and one additional Math at Algebra II level or above. (Algebra II is a local requirement)

The five Endorsement areas are:

- Science, Technology, Engineering and Mathematics (STEM)
- Business & Industry
- Public Services
- Arts & Humanities
- Multidisciplinary Studies

Distinguished Level of Achievement

A student may earn a Distinguished Level of Achievement by successfully completing the curriculum requirements for the Foundation High School Program and the curriculum requirements for at least one endorsement, including four credits in Science and four credits in Mathematics to include Algebra II. A student must earn Distinguished Level of Achievement to be eligible for top 10% automatic college admission.

Performance Acknowledgements

A student may earn a Performance Acknowledgement for outstanding performance in Dual Credit courses, in bilingualism and bi-literacy, on a College Board AP test, on the PSAT, the SAT or the ACT. A student may also earn a Performance Acknowledgement for earning a nationally or internationally recognized business or industry certification or license.

The following pages detail the Foundation Plan and Endorsement options closer.

TEXAS HIGH SCHOOL DIPLOMA – Friendswood Independent School District

FOUNDATION – 22 CREDITS

- **4 English Language Arts credits** – Three credits must be ELA I, II, III and an additional English course
- **3 Mathematics credits –** Two credits must be Algebra I, Geometry, and then an additional Math course
- **3 Science credits –** One credit must be Biology, one from either Integrated Physics and Chemistry or Chemistry; and an additional Science course
- **3 Social Studies credits –** Two credits must be US History, Government/Economics and either World Geography or World History
- **2 Foreign Language credits** of the same language
- **1 Fine Arts; 1 Physical Education; 4 Electives; and local requirements of ½ Professional Communications & ½ Health**

Plus 4 additional credits to obtain an Endorsement for a total of 26 credits

5 ENDORSEMENT OPTIONS

SCIENCE, TECHNOLOGY, ENGENEERING, MATHMATHICS AND COMPUTER SCIENCE

(STEM)

*Required Courses: Foundation courses, Additional Math (minimum Algebra II), Chemistry, Physics, and one Endorsement option**

BUSINESS & INDUSTRY

Agriculture Science, Arts Audio/Video Technology & Communications, Business & Finance, Hospitality & Tourism, Marketing, and English

*Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option**

PUBLIC SERVICES

Health Sciences, Education & Training, Law, Public Safety, Correction & Security

*Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option**

ARTS & HUMANITIES

Social Studies, Languages other than English and Fine Arts

*Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option**

MULTI-DISCIPLINARY STUDIES

Advanced courses from one or among Endorsement areas, four credits in each of the four core subject areas, four credits in advanced placement or dual credit

*Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option**

DISTINGUISHED LEVEL OF ACHIEVEMENT

A student may earn a Distinguished Level of Achievement by successfully completing the curriculum requirements for the Foundation High School Program and the curriculum requirements for at least one endorsement, including four credits in Science and four credits in Mathematics to include Algebra II

PERFORMANCE ACKNOWLEDGEMENT

A student may earn a Performance Acknowledgement for outstanding performance in Dual Credit courses, in bilingualism and bi-literacy, on a College Board AP test, on the PSAT, the ACT-Plan, the SAT or the ACT. A student may also earn a Performance Acknowledgement for earning a nationally or internationally recognized business or industry certification or license.

TEXAS HIGH SCHOOL GRADUATION ENDORSEMENT REQUIREMENTS

ENDORSEMENTS	CURRICULUM REQUIREMENTS (Plan Options)
Science, Technology, Engineering & Mathematics **(STEM)** **Science** **Technology** **Engineering** **Mathematics** **Computer Science** *Required Courses: Foundation courses, Additional Math (minimum Algebra II), Chemistry, Physics, and one Endorsement option from the list on the right*	**Students must complete Algebra II, Chemistry, Physics, and ONE of the following options for the STEM Endorsement:** **1**. A coherent sequence of **four or more credits** in Career and Technical Education (CTE) that consists of at least two courses in the same career cluster, including at least one being an advanced CTE course. The final course must be selected from CTE STEM courses; or **2**. A coherent sequence of **four credits** in Computer Science; or **3**. **Three credits** in Mathematics by successfully completing Algebra II and two additional Mathematics courses for which Algebra II is a prerequisite; or **4**. **Four credits** in Science by successfully completing Chemistry, Physics and two additional Science courses. **5.** In addition to Algebra II, Chemistry, and Physics completing a coherent sequence of **3 additional credits** from no more than 2 of the options (1 – 4) listed above.
Business & Industry **Agriculture Science** **Arts, Audio/Video Technology & Communications** **Business & Finance** **Hospitality and Tourism** **Marketing** **English** *Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option from the list on the right*	**Students must complete ONE of the following options for the Business & Industry Endorsement:** **1**. A coherent sequence of courses for **four or more credits** in CTE that consists of at least two courses, at least one being advanced, in the same career cluster from the choices listed below: a. Agriculture, Food & Natural Resources; or b. Arts, Audio/Video Technology, and Communications; or c. Business and Finance; or d. Hospitality and Tourism; or e. Marketing **2**. **Four English elective credits** to include three levels in one of the following areas: a. Advanced Broadcast Journalism; or b. Advanced Journalism Newspaper; or c. Debate; or d. Advanced Journalism Yearbook

Public Services **Health Sciences** **Education & Training** **Law, Public Safety and Correction & Security** *Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option from the list on the right*	**Students must complete ONE of the following options for the Public Service Endorsement:** 1. A coherent sequence of courses for **four or more credits** in CTE that consists of at least two courses in the same career cluster, and at least one being an advanced CTE course, from the choices listed below: a. Education & Training; or b. Health Science; or c. Law, Public Safety and Correction & Security
Arts & Humanities **Social Studies** **Languages Other Than English** **Fine Arts** *Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option from the list on the right*	**Students must complete ONE of the following options for the Arts & Humanities Endorsement:** 1. **Five** Social Studies credits; or 2. **Four** levels of the same language in a language other than English; or 3. **Two** levels of the same language other than English and **two** levels of a different language in a language other than English; or 4. A coherent sequence of **four credits** by selecting courses from one or two categories in fine arts (Art, Dance, Choir, Band, Theatre, Technical Theatre).
Multidisciplinary Studies **Advanced courses from one or among Endorsement areas, four credits in each of the four core subject areas, four credits in advanced placement or dual credit** *Required courses: Foundation courses, Additional Math (minimum Algebra II), an additional Science, and one Endorsement option from the list on the right*	**Students must complete ONE of the following options for the Multidisciplinary Studies Endorsement:** 1. **Four** advanced courses that prepare a student to enter the workforce successfully or postsecondary education without remediation from within one endorsement area or among endorsement areas that are not in a coherent sequence; or 2. **Four** credits in each of the four foundation subject areas to include English IV and Chemistry and/or Physics; or 3. **Four** credits in advanced placement or dual credit selected from English, Mathematics, Science, Social Studies, Economics, languages other than English, or Fine Arts.

Performance Acknowledgments

(a) A student may earn a performance acknowledgment on the student's transcript for outstanding performance in a dual credit course by successfully completing:

(1) at least 12 hours of college academic courses, including those taken for dual credit as part of the Texas core curriculum, and advanced technical credit courses, including locally articulated courses, with a grade of the equivalent of 3.0 or higher on a scale of 4.0; or
(2) an associate degree while in high school.

(b) A student may earn a performance acknowledgment on the student's transcript for outstanding performance in bilingualism and biliteracy as follows.

(1) A student may earn a performance acknowledgment by demonstrating proficiency in accordance with local school district grading policy in two or more languages by:

(A) completing all English language arts requirements and maintaining a minimum grade point average (GPA) of the equivalent of 80 on a scale of 100; and
(B) satisfying one of the following:

(i) completion of a minimum of three credits in the same language in a language other than English with a minimum GPA of the equivalent of 80 on a scale of 100; or
(ii) demonstrated proficiency in the Texas Essential Knowledge and Skills for Level IV or higher in a language other than English with a minimum GPA of the equivalent of 80 on a scale of 100; or
(iii) completion of at least three credits in foundation subject area courses in a language other than English with a minimum GPA of 80 on a scale of 100; or
(iv) demonstrated proficiency in one or more languages other than English through one of the following methods:

(I) a score of 3 or higher on a College Board Advanced Placement examination for a language other than English; or
(II) a score of 4 or higher on an International Baccalaureate examination for a higher-level language other than English course; or
(III) performance on a national assessment of language proficiency in a language other than English of at least Intermediate High or its equivalent.

(2) In addition to meeting the requirements of paragraph (1) of this subsection, to earn a performance acknowledgment in bilingualism and biliteracy, an English language learner must also have:

(A) participated in and met the exit criteria for a bilingual or English as a second language (ESL) program; and
(B) scored at the Advanced High level on the Texas English Language Proficiency Assessment System (TELPAS).

(c) A student may earn a performance acknowledgment on the student's transcript for outstanding performance on a College Board Advanced Placement test or International Baccalaureate examination by earning:

(1) a score of 3 or above on a College Board Advanced Placement examination; or
(2) a score of 4 or above on an International Baccalaureate examination.

(d) A student may earn a performance acknowledgment on the student's transcript for outstanding performance on an established, valid, reliable, and nationally norm-referenced preliminary college preparation assessment instrument used to measure a student's progress toward readiness for college and the workplace or on an established valid, reliable, and nationally norm-referenced assessment instrument used by colleges and universities as part of their undergraduate admissions process by:

(1) earning a score on the Preliminary SAT/National Merit Scholarship Qualifying Test (PSAT/NMSQT®) that qualifies the student for recognition as a commended scholar or higher by the College Board and National Merit Scholarship Corporation, as part of the National Hispanic Recognition Program (NHRP) of the College Board or as part of the National Achievement Scholarship Program of the National Merit Scholarship Corporation;

(2) achieving the college readiness benchmark score on at least two of the four subject tests on the ACT AspireTM examination;

(3) earning a composite score of at least 1310 on the SAT®; or

(4) earning a composite score on the ACT® examination of 28 (excluding the writing subscore).

(e) A student may earn a performance acknowledgment on the student's transcript for earning a state-recognized or nationally or internationally recognized business or industry certification or license as follows.

(1) A student may earn a performance acknowledgment with:

(A) performance on an examination or series of examinations sufficient to obtain a nationally or internationally recognized business or industry certification; or
(B) performance on an examination sufficient to obtain a government-required credential to practice a profession.

(2) Nationally or internationally recognized business or industry certification shall be defined as an industry-validated credential that complies with knowledge and skills standards promulgated by a representing a particular profession or occupation that is issued by or endorsed by:

(A) a national or international business, industry, or professional organization;
(B) a state agency or other government entity; or
(C) a state-based industry association.

(3) Certifications or licensures for performance acknowledgements shall:

(A) be age appropriate for high school students;
(B) represent a student's substantial course of study and/or end-of-program knowledge and skills;
(C) include an industry-recognized examination or series of examinations, an industry-vali dated skill test, or demonstrated proficiency through documented, supervised field experience; and
(D) represent substantial knowledge and multiple skills needed for successful entry into a high-skill occupation.

Statutory Authority: The provisions of this §74.14 issued under the Texas Education Code, §§7.102, 28.002, and 28.025.
Source: The provisions of this §74.14 adopted to be effective July 8, 2014, 39 TexReg 5149; amended to be effective August 22, 2016, 41 TexReg 5040; amended to be effective August 27, 2018, 43 TexReg 4190.

State of Texas Assessments of Academic Readiness (STAAR)
End-of-Course (EOC) Requirements for Graduation:

High School students are required to pass five STAAR EOC exams to meet the graduation requirements. The five assessments include Algebra I, English I (combined reading/writing),
English II (combined reading/writing), Biology, and U.S. History. Students must meet a scale score for each exam that indicates satisfactory performance in all five of these assessments to be eligible to graduate from a Texas public high school.

Each EOC exam will have a designated satisfactory performance score and an advanced academic performance score. If the student does not meet the satisfactory score requirement, the student will be required to retake the test. Each student will receive a state generated confidential student report (CSR) which shows detailed information about their performance.

EOC exams will be offered three times per school year in the Spring, Summer and Fall. Students will participate in the exam during the time at which they are receiving credit for an EOC course or at the next available testing opportunity for students participating in retakes.

Regardless of the graduation plan or endorsement a student chooses, the STAAR EOC requirements remain the same.

Eligibility For Extracurricular Activities

1. A student in grades 9 - 12 may participate in extracurricular activities on or off campus at the beginning of the school year only if the student has earned the cumulative number of credits in state-approved courses indicated in this subsection:

A. Beginning at the ninth-grade year must have been regularly promoted from grade 8.
B. Beginning of their second year of high school - at least 5 credits toward graduation.
C. Beginning of the third year - at least 10 credits toward state high school graduation credit, or earned a total of five credits which count toward high school graduation requirements during the 12 months preceding the first day of the current school year.
D. Beginning of the fourth year - at least 15 credits toward state high school graduation credit, or earn a total of five credits which count toward high school graduation requirements during the 12 months preceding the first day of the current school year.

2. In order to be eligible to participate in an extracurricular activity for a grading period following the initial grading period of a school year, a student must not have a recorded cumulative grade average lower than 70 on a scale of 0 to 100 in any course, including Texas Virtual School Network but excluding those identified as Mustang Advanced Program, Advanced Placement and ISM through the end of the preceding grading period. Students enrolled in Mustang Advanced Program, Advanced Placement and ISM classes must not have a recorded cumulative grade average lower than a 65 on a scale of 0 to 100. These classes include:

ADVANCED PLACEMENT	MUSTANG ADVANCED PROGRAM	INDEPENDENT STUDY MENTORSHIP
AP English III & IV	MAP English I & II	ISM I
AP French IV	MAP French II, III & IV	ISM II
AP German IV	MAP German II, III	ISM III
AP Latin IV	MAP Latin II & III	ISM Computer Science I
AP Spanish IV	MAP Spanish II & III	ISM Computer Science II
AP Calculus AB & BC	MAP Geometry	
AP Statistics	MAP Algebra II	**OTHER**
AP Economics (Macro)	MAP Pre Calculus	AD ISM I (Academic Decathlon)
AP European History	MAP Biology	AD ISM II (Academic Decathlon)
AP US Government	MAP World Geography	AD ISM III (Academic Decathlon)
AP Human Geography	MAP Chemistry	Debate I
AP US History	MAP Physics	Debate II
AP World History	Computer Science II (Weighted)	Debate III
AP Biology	Computer Science III (Weighted)	
AP Chemistry	**PLTW - WEIGHTED COURSES**	
AP Environmental Science	Introduction to Engineering Design (Weighted)	
AP Physics 1	Engineering Science (Weighted)	
AP Physics 2	Civil Engineering & Architecture (Weighted)	
AP 2D Art and Design	Aerospace Engineering (Weighted)	
AP 3D Art and Design	Engineering Design & Development (Weighted)	
AP Drawing	Digital Electronics (Weighted)	
AP Music Theory	Principles of Biomedical Science (Weighted)	
AP Computer Science	Human Body Systems (Weighted)	
AP Computer Science Principles	Medical Interventions (Weighted)	
	Biomedical Innovation (Weighted)	

Eligibility For Extracurricular Activities Continued

3. All Dual credit classes will follow the UIL guidelines for advanced courses identified for exemption for the purposes of eligibility. Dual credit courses will receive MAP weight with the exception of Workforce dual credit.

4. A student whose recorded cumulative grade average in any course is lower that 70 at the end of a grading period shall be suspended from participation in any extracurricular activity. The suspension period begins 7 calendar days after the close of the grading period and continues for a minimum of three weeks. At the end of the three-week grading period, if a student is passing all courses, the suspension is removed 7 calendar days later. If a student is not passing all courses at the three-week evaluation, the suspension continues until the next three-week period, at which time the preceding rules apply. An INC (incomplete) is considered a failing grade until it is assigned a passing grade. An INC 7 calendar days after the close of a grading period is considered a failing grade.

5. A student suspended under this section may practice or rehearse with other students for an extracurricular activity but may not participate in a competition or other public performance.

6. At the end of any grading period in which a student has attained a cumulative course grade average of 70 or more in all courses taken, any suspension under this section shall be removed.

Friendswood High School Policy:
Students who are otherwise eligible may not miss a class in which he/she is currently failing in order to participate in an extracurricular or co-curricular activity unless approved by the principal. Grades for the FHS local policy are checked weekly beginning with the 3-week grade check of each grading period. A student may miss class with an INC (incomplete) for their average if they were passing the grade check the week before.
Exceptions must be approved by principal.

NCAA

NCAA Information for the College-Bound Student Athlete:
If your child is planning on playing a college sport, they will need to refer to the NCAA Guide for the College-Bound Student Athlete that can be found on the FHS website under the Athletics tab. Students will need to follow these courses and guidelines starting as early as their freshman year to make sure they are prepared with the high school courses they need to be eligible.

Note: Gradpoint courses are not accepted by NCAA.

LANGUAGE ARTS

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
English I	1110	X				1	None
MAP English I	1120	X				1	Recommended: 85 or higher in previous English course
English II	1210		X			1	English I
MAP English II	1220		X			1	Recommended: 85 or higher in previous English course and MAP English I
English III	1310			X		1	English II
AP English III	1330			X		1	Recommended: 85 or higher in previous English course and MAP English II
Dual Credit College English III (1301 Composition I & 1302 Composition II)	1340A 1340B			X		1	Meet TSI requirements "C" or higher in 1301 to enroll in 1302
English IV	1410				X	1	English III
English IV - CP	1600				X	1	English III, TSI Screening and Teacher recommendation
AP English IV	1430				X	1	Recommended: 85 or higher in previous English course and AP English III
Dual Credit College English IV (1301 Composition I & 1302 Composition II)	1440A 1440B				X	1	Meet TSI requirements "C" or higher in 1301 to enroll in 1302
Dual Credit British Literature (2322 British Literature I & 2323 British Literature II)	1455A 1455B				X	1	Meet TSI requirements, "C" or higher in 1301 & 1302, "C" or higher in 2322 to enroll in 2323

LANGUAGE ARTS

All English class choices require a teacher's signature for approval.

1110 ENGLISH I

Grade: 9
Credit: 1
Prerequisite: None

Learners' studies include, literary and persuasive writing, with a primary focus on expository writing, along with appropriate grammar, literature and vocabulary development. Reading skills, paragraph writing, and language concepts are stressed. Learners study various types of literature including poetry, drama, short stories, novels, and prose. Composition skills include the paragraph (open-ended response) and multi-paragraph theme.

1120 MAP ENGLISH I

Grade: 9
Credit: 1
Prerequisite: None
Recommended: 85 or higher in previous English course

On the freshman level, the MAP student covers the same basic material as the regular student: grammar, composition, short story, poetry, novel, drama, propaganda, and prose. The MAP student deals with these subjects in a more challenging way and in greater depth. Additional reading material with regard to novels, short stories, and prose is required, and the student is expected to go beyond recognition level to employ critical thinking skills to all work. A greater emphasis is placed on writing style and variety of sentence and paragraph construction in the five-paragraph and multi-paragraph theme. Summer reading of the assigned novel is required.

1210 ENGLISH II

Grade: 10
Credit: 1
Prerequisite: English I

Learners' studies include expository and persuasion as the key composition skill and focus of English II, along with appropriate usage, mechanics, vocabulary and test-taking practice. A solid introduction to research serves as a foundation in English II, as well. Learners also enjoy exposure to a variety of world literature, such as epics, dystopian works, satires, biographies, novels, and short stories and study the literary components and how they relate to the various genres.

1220 MAP ENGLISH II

Grade: 10
Credit: 1
Prerequisite: None
Recommended: 85 or higher in previous English course, MAP English I

MAP English II is the advanced English course for the sophomore level. Designed for highly skilled and motivated readers and writers, this course will develop learners' literary and critical thinking skills. Research skills, challenging literature and the study of style are integrated throughout the course. Summer reading of the assigned novel is required.

1310 ENGLISH III

Grade: 11
Credit: 1
Prerequisite: English II

English III gives the student the opportunity to practice and apply grammar, composition, and literary skills, gaining increased independence in the ability to understand and evaluate fiction and nonfiction. Emphasis is placed upon American literature, vocabulary development, and writing: composing, critiquing, and revising. A research paper is required.

1330 AP ENGLISH III

Grade: 11
Credit: 1
Prerequisite: None
Recommended: 85 or higher in previous English course, MAP English II

AP English III is the advanced English class for the junior level. Designed for highly skilled and motivated readers and writers, this American literature course will develop learners' rhetorical analysis and critical reading skills. Research skills, challenging literature, the study of style and rhetoric, and preparation for the AP Language and Composition test will be integrated throughout this course. Summer reading of the assigned novel (s) is required.

1340A/1340B DUAL CREDIT COLLEGE ENGLISH III (COLLEGE CREDIT) (1301 COMPOSITION I, 1302 COMPOSITION 2)

Grade: 11
Credit: 1
Prerequisite: Meet TSI requirements, "C" or higher in 1301 to enroll in 1302

The fall semester lines up with college ENG 1301: the spring semester lines up with college ENG 1302.

Composition I is the intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis is placed on rhetorical choices, including audience, purpose, arrangement, and style. This course focuses on writing the academic essay as a vehicle for learning, communicating, and critical analysis.

Composition II is the intensive study of practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis is placed on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions.

Learners will be responsible for registration with College of the Mainland and any additional book fees.

1410 ENGLISH IV

Grade: 12
Credit: 1
Prerequisite: English III

English IV is designed to prepare learners for English in college or career. The course concentrates on literature, literary analysis and a career practicum. Certain units will include service opportunities.

1600 ENGLISH IV - CP

Grade: 12
Credit: 1
Prerequisite: English III

English IV is designed to prepare learners for English in college or career. The course concentrates on literature, literary analysis and a career practicum. Certain units will include service opportunities.

FISD will partner with an institution of higher education to provide opportunities to be successful in college-level, credit bearing courses.

1430 AP ENGLISH IV

Grade: 12
Credit: 1
Prerequisite: Recommended: 85 or higher in previous English course, AP English III

AP English IV is the advanced English class for the senior level. Designed for highly skilled and motivated readers and writers, this British and world literature course will develop learners' literary criticism skills. Research skills, challenging literature, the study of style, and preparation for the AP Literature test will be integrated throughout this course. Summer reading of the assigned novel is required.

1440A/1440B DUAL CREDIT COLLEGE ENGLISH IV (COLLEGE CREDIT)
(1301 COMPOSITION I, 1302 COMPOSITION 2)

Grade: 12
Credit: 1
Prerequisite: Meet TSI requirements, "C" or higher in 1301 to enroll in 1302

Composition I is the intensive study of and practice in writing processes, from invention and researching to drafting, revising, and editing, both individually and collaboratively. Emphasis is placed on rhetorical choices, including audience, purpose, arrangement, and style. This course focuses on writing the academic essay as a vehicle for learning, communicating, and critical analysis.

Composition II is the intensive study of practice in the strategies and techniques for developing research-based expository and persuasive texts. Emphasis is placed on effective and ethical rhetorical inquiry, including primary and secondary research methods; critical reading of verbal, visual, and multimedia texts; systematic evaluation, synthesis, and documentation of information sources; and critical thinking about evidence and conclusions.

Learners will be responsible for registration with College of the Mainland and any additional book fees.

1455A/1455B DUAL CREDIT BRITISH LITERATURE (COLLEGE CREDIT)
(2322 BRITISH LITERATURE I, 2323 BRITISH LITERATURE II)

Grade: 12
Credit: 1
Prerequisite: Meet TSI requirements, "C" or higher in 1301 & 1302, "C" or higher in 2322 to enroll in 2323

British Literature I is a survey of the development of British Literature from the Anglo-Saxon period to the Eighteenth Century. Students will study works of prose, poetry, drama, and fiction in relation to their historical, linguistic, and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

British Literature II is a survey of the development of British Literature from the Romantic period to the present. Students will study works of prose, poetry, drama, and fiction in relation to their historical and cultural contexts. Texts will be selected from a diverse group of authors and traditions.

Learners will be responsible for registration with College of the Mainland and any additional book fees.

LANGUAGE ARTS ELECTIVES

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Journalism I	7618	X	X	X	X	1	None
Journalism II-IV	7628 7638 7648		X	X	X	1	Journalism I or Advisor Approval
Annual/Commercial Photography I, II Annual III (Yearbook)	7616 7617 7615		X	X	X	1	Journalism I or Advisor Approval
Academic Literacy I	1100	X	X	X	X	1	Teacher Referral
AD ISM I (Academic Decathlon) (Counts as AP course for grade points earned)	0055		X			1	Sponsor Signature
AD ISM II (Academic Decathlon) (Counts as AP course for grade points earned)	0056			X		1	Sponsor Signature
AD ISM III (Academic Decathlon) (Counts as AP course for grade points earned)	0057				X	1	Sponsor Signature
Independent Study: Speech/Debate (This course may count as a Speech credit)	7219A/ 7219B	X				1	Coach Approval
Debate I (Counts as AP course for grade points earned)	7210		X	X	X	1	Coach Approval
Debate II (Counts as AP course for grade points earned)	7215			X	X	1	Debate I & Coach approval
Debate III (Counts as AP course for grade points earned)	7218				X	1	Debate I-II & Coach approval

LANGUAGE ARTS ELECTIVES

7618 JOURNALISM I

Grade: 9 – 12
Credit: 1
Prerequisite: None

Journalism I is a basic newspaper lab course. Major emphasis is placed on the fundamentals of news writing, feature writing, editorial writing, headline writing, photography and yearbook. Learners also learn the mechanics of the print media, including copy reading, page layout, and advertising, as they relate to the school newspaper, The Lariat.

* Many projects are graded on a deadline basis.

7628 JOURNALISM II
7638 JOURNALISM III
7648 JOURNALISM IV

Grade: 10 - 12
Credit: 1
Prerequisite: Journalism I or Advisor Approval

In Journalism II the learners continue to produce The Lariat, the school newspaper. The newspaper advisor and editor will assign article topics to students. Journalism II is a lab and is scheduled during a regular class period, but will require students to attend events before and/or after school.

7616 ANNUAL/COMMERCIAL PHOTOGRAPHY I
7617 ANNUAL/COMMERCIAL PHOTOGRAPHY II
7615 ANNUAL III

Grade: 10 - 12
Credit: 1
Prerequisite: Journalism I or Advisor Approval

Learners electing this course work prepare the yearbook for publication. Positions include editor, news editor, feature editor, sports editor, business manager, staff artist, photographers, and reporters. Design, photography, and all aspects of publishing the yearbook are involved in this course. Coverage of activities, sports, and campus life will require students to work before and/or after school. Staff members make decisions concerning theme, type of arrangement, and pictures that appear in the yearbook. Class is limited to 25 learners.

1100 ACADEMIC LITERACY

Grade: 9 - 12
Credit: .5 or 1
Prerequisite: Teacher referral

This class is designed for the student who struggles with on level reading, comprehension, and critical thinking. Access is by referral or self-selection, with approval of instructor. Curriculum includes reading strategies, fluency building, word study and self-selected reading. Duration may be one semester or one full year. May be repeated for elective state credit. Class size is strictly limited. Covers TEKS for Reading I, II, and III.
Students who struggle in content classes may be referred for comprehension assistance, with instructor approval.

ACADEMIC DECATHLON

0055 AD INDEPENDENT STUDENT MENTORSHIP I (ACADEMIC DECATHLON)

Grade: 10
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Sponsor Signature

Academic Decathlon involves research of ten academic areas including economics, history, language and literature, science, fine arts, and others. A team of 3 A, 3 B and 3 C average learners will be selected to compete in the Academic Decathlon competition during the spring semester. Region and state contests are held for schools categorized as large, medium and small. Based on a point system, the highest scoring team represents Texas at the national USAD competition. All members of the winning team receive scholarships. Texas provides $150,000 in scholarship money each year. Overall individual winners also win scholarships.
Registration fees and the Texas Education Agency contribute to this scholarship fund.

0056 AD INDEPENDENT STUDENT MENTORSHIP II (ACADEMIC DECATHLON)

Grade: 11
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Sponsor Signature

Academic Decathlon involves research of ten academic areas including economics, history, language and literature, science, fine arts, and others. A team of 3 A, 3 B and 3 C average learners will be selected to compete in the Academic Decathlon competition during the spring semester. Region and state contests are held for schools categorized as large, medium and small. Based on a point system, the highest scoring team represents Texas at the national USAD competition. All members of the winning team receive scholarships. Texas provides $150,000 in scholarship money each year. Overall individual winners also win scholarships.
Registration fees and the Texas Education Agency contribute to this scholarship fund.

0057 AD INDEPENDENT STUDENT MENTORSHIP III (ACADEMIC DECATHLON)

Grade: 12
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Sponsor Signature

Academic Decathlon involves research of ten academic areas including economics, history, language and literature, science, fine arts, and others. A team of 3 A, 3 B and 3 C average learners will be selected to compete in the Academic Decathlon competition during the spring semester. Region and state contests are held for schools categorized as large, medium and small. Based on a point system, the highest scoring team represents Texas at the national USAD competition. All members of the winning team receive scholarships. Texas provides $150,000 in scholarship money each year. Overall individual winners also win scholarships.
Registration fees and the Texas Education Agency contribute to this scholarship fund.

DEBATE COURSES

These classes are only offered to students who are members of the FHS Forensics Team. Students will be expected to attend speech tournaments throughout the year. Only students committed to competition for FHS should take these courses.
Enrollment in these courses constitutes agreement to fulfill all curricular, co-curricular, and extra-Curricular requirements.

7219A/7219B INDEPENDENT STUDY: SPEECH/DEBATE

Grade: 9
Credit: 1
Prerequisite: Coach Approval
This course may count as a speech credit

Communication skills are important in all aspects of life. Students who have mastered concepts and developed skills in introductory courses will be provided with opportunities to extend their knowledge and expand their skills in more advanced study. Independent Study in Speech provides opportunities for advanced students to plan, organize, produce, perform, and evaluate a project that enables them to develop advanced skills in communication, critical thinking, and problem solving.

7210 DEBATE I

Grade: 10 - 12
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Coach Approval

Controversial issues arise in aspects of personal, social public, and professional life in modern society. Debate and argumentation are widely used to make decisions and reduce conflict. Students who develop skills in argumentation and debate become interested in current issues, develop sound critical thinking, and sharpen communication skills. They acquire life-long skills for intelligently approaching controversial issues. In this course, students develop their abilities in argumentation and debate. They approach current issues, develop critical thinking and sharpen communication skills. Extensive independent research is required for all debate courses.

7215 DEBATE II

Grade: 11 - 12
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Debate I, Coach Approval

In this course, students master the techniques of argumentation, research and persuasive speaking.

7218 DEBATE III

Grade: 12
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Debate I-II, Coach Approval

In this course, students gain in-depth knowledge of argumentation techniques, research for a specific purpose, and demonstrate speaking as a persuasive skill.

SOCIAL STUDIES

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
World Geography	2210	X	X			1	None
MAP World Geography	2220	X				1	Recommended: MAP 8th Grade English, MAP 8th Grade American History
AP Human Geography	2600	X				1	Recommended: MAP 8th grade English, MAP American History and Concurrent enrollment in MAP English I
World History	2310	X	X			1	None
AP World History	2325		X			1	Recommended: MAP World Geography or AP Human Geography & MAP English I
Personal Financial Literacy	2340		X	X	X	.5	None
United States History	2110		X	X		1	None
AP United States History	2130			X		1	Recommended: MAP English II & AP W. History
Dual Credit United States History	2200A 2200B			X		1	Meet TSI requirements
AP European History	2250			X	X	1	Recommended: AP W. History/ AP US History or Dual Credit US History
Dual Credit Government 2305	2442AW				X	.5	Meet TSI requirements
United States Government	2415				X	.5	None
AP US Government	2435				X	.5	Recommended: AP English III, and AP US History
Economics	2425				X	.5	None
AP Economics (Macro)	2430				X	.5	Recommended: AP US History & AP English

SOCIAL STUDIES

2210 WORLD GEOGRAPHY

Grade: 9 - 10
Credit: 1
Prerequisite: None

This course provides learners the opportunity to study the interaction of people and their physical environments in the major areas of the world. Content introduces the student to the world of geographers, their unique vocabulary, tools, and methodologies. Learners acquire an understanding of the physical setting of the earth, locate and study different land forms and regions of the world, learn how people and geography impact each other, and are introduced to urban analysis. Content offers learners an opportunity to put into practice the geographical concepts and skills they have accumulated throughout the social studies program beginning in elementary grades and the Texas and United States history courses.

2220 MAP WORLD GEOGRAPHY

Grade: 9
Credit: 1
Prerequisite: None
Recommended: MAP English (8th grade) and MAP American History (8th grade)

MAP World Geography is designed for mastery of state essential elements and sub-elements as well as extension beyond this mastery. In this course, critical thinking and analytical skills will be accomplished through the use of various strategies including interpretation of primary and secondary source materials. Learners will use their knowledge of spatial relationships, systematic physical and human processes and the interaction between people and their environment to make intelligent decisions as citizens. The purpose of this MAP course is to prepare highly motivated learners for rigorous and fast paced Advanced Placement classes. AP classes prepare learners for the National College Board Advanced Placement exams that allow learners to earn college credit.

2600 AP HUMAN GEOGRAPHY

Grade: 9
Credit: 1
Prerequisite: None
Recommended: MAP English (8th grade) and MAP American History (8th grade)
For this course, there is no appropriate level to move down to, Students in this AP class must stay until the semester.

APHG is an advanced course, designed for students to have the opportunity to study the human elements of the earth. This includes the study of how humans influence the earth as well as human populations, migrations, cultural characteristics, agricultural land use patterns, urban developments, political organization and economic factors. It is a college level course and students should be prepared to think critically, research independently, exercise writing skills and analyze college level topics. Successful completion of this course fulfills the requirement for the World Geography course and the course prepares students for the College Board Advanced Placement Human Geography exam.

2310 WORLD HISTORY

Grade: 9 - 10
Credit: 1
Prerequisite: None

This course includes further study of the history and development of world cultures that learners encountered throughout the elementary grades and earlier secondary social studies courses. Content includes the development of early civilizations, western civilization, and other world regions from their early days to the present. The course provides learners the opportunity to compare and analyze various ways of life and cultural patterns that reflect the diversity and commonality of human experiences and the understanding of how these patterns occur. Geographic influences on world history are a part of the study.

2325 AP WORLD HISTORY: Modern

Grade: 10
Credit: 1
Prerequisite: None
Recommended: MAP World Geography and/or MAP English I

This is a one-year world history course for learners who would like to prepare for college level work and to have the opportunity to take the AP exam for college credit. The purpose of the course is for the learners to develop an understanding of the changes in human societies that have taken place over time, especially in the past one thousand years. Emphasis will be placed on the processes within societies as well as the contacts and interaction between them. Learners will look at, compare, and evaluate civilizations from different perspectives (cultural, institutional, technological, etc.). The course is based upon relevant factual knowledge while giving learners a basis of the interpretive issues within the various types of historical evidence. Periodization and themes will provide the main organization for the course in giving learners a global perspective of the significant aspects of the past. Critical thinking, analysis, and interpretation are emphasized.

2340 PERSONAL FINANCIAL LITERACY

Grade: 10 - 12
Credit: .5
Prerequisite: None

This is an interactive and research-based course. The course will cover materials students can use to apply critical thinking and problem-solving skills to analyze decisions involving earning and spending, saving and investing, credit and borrowing, insuring and protecting, and college and postsecondary education and training. Students will also evaluate the necessity of a purchase, the quality or value of the purchase or investment compared to the other alternatives, and the total cost of acquisition, particularly in the context of financing options.

2110 UNITED STATES HISTORY

Grade: 10 - 11
Credit: 1
Prerequisite: None

Content for the second year of study of United States history includes significant individuals, issues, and events after the period of Reconstruction to the present. The course continues the focus from Grade 8 on the history, geography, and political and economic growth of the nation. It also continues the theme of cultural pluralism as a characteristic of American society, past and present.

Learners study the emergence of the United States as a world power. They learn how geography influences historical developments, analyze economic development and growth, understand the nation's social and cultural developments, and study the political development of the United States from Reconstruction to the present.

2130 AP UNITED STATES HISTORY

Grade: 11
Credit: 1
Prerequisite: None
Recommended: MAP English II and AP World History

AP US History is a comprehensive course that covers the age of exploration and colonization through the present era. Advanced Placement US History offers an introduction of college level skills and curriculum at the secondary level, as well as an opportunity to receive 6 hours of college credit (upon successful completion of the College Board Examination) for the course work while still in high school. Learners taking this course may expect heavy reading assignments, extensive writing, and in-depth preparation for the AP Exam.

2200A/2200B DUAL CREDIT UNITED STATES HISTORY (COLLEGE CREDIT)

Grade: 11
Credit: 1
Prerequisite: Meet TSI requirements

This course traces the development of American characteristics and nationality from the early European exploration to the reconstruction of the Union in 1877, continuing to the present.

College of the Mainland equivalent courses: United States History 1301 and 1302.
Learners will be responsible for registration with College of the Mainland and any additional book fees.

2250 AP EUROPEAN HISTORY

Grade: 11 - 12
Credit: 1
Prerequisite: None
Recommended: AP World History and/or AP United States History/Dual Credit or teacher recommendation.

The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. In addition to providing a basic narrative of events and movements, the goals of AP European History are to develop an understanding of some of the principal themes in modern European history, an ability to analyze historical evidence and historical interpretation, and an ability to express historical understanding in writing.

2442AW DUAL CREDIT GOVERNMENT 2305 FEDERAL GOVERNMENT (COLLEGE CREDIT)

Grade: 12
Credit: .5
Prerequisite: Meet TSI requirements

Origin and development of the U.S. Constitution, structure and powers of the national government including the legislative, executive, and judicial branches, federalism, political participation, the national election process, public policy, civil liberties and civil rights.

Learners will be responsible for registration with College of the Mainland and any additional book fees.

2415 UNITED STATES GOVERNMENT

Grade: 12
Credit: .5
Prerequisite: United States History

This course provides an opportunity to study in depth the foundation of the United States political system; to analyze the political institutions, processes, and values of the system; to trace the development of the United States government system; and to analyze its structure.

2435 AP UNITED STATES GOVERNMENT

Grade: 12
Credit: .5
Prerequisite: None
Recommended: AP English III and AP US History

The goal of this course is to provide learners with the knowledge and skills to analyze and interpret the relationship between current events and the foundations and principles of the United States government. Learners are presented with more than a basic understanding of the ideas of the founding fathers, democracy, federalism, the separation of powers, and the rights of citizens. Learners must understand the changes that these ideas and principles have undergone and how they impact the way the United States government functions today and the effect on citizens.

2425 ECONOMICS (with emphasis on the free enterprise system)

Grade: 12
Credit: .5
Prerequisite: None

The course provides opportunities for learners to study basic principles concerning production, consumption, and distribution of goods and services. Content builds an understanding of the essential components and benefits of the free enterprise system. Learners study such concepts as scarcity, economic interdependence, the market system, prices, economic stability, and growth. They examine the role of government in the American economics system and explore selected aspects of international economic systems. The course gives learners insights into the techniques and tools used by economists in analyzing data. Learners are also provided opportunities to acquire competencies and knowledge of practical economic functions.

2430 AP ECONOMICS (MACRO)

Grade: 12
Credit: .5
Prerequisite: None
Recommended: AP US History and AP English III

Encouraged for all college bound learners, especially those learners planning on studies in social sciences and business. This class will teach the basic concepts including scarcity, opportunity costs, aggregate supply, and aggregate demand. Learners will study market structures, economic systems, the Federal Reserve system, measuring the economy, money and banking, international trade and the Global Economy, as well as current economic challenges. Learners will examine the relationship between the government and the economy including the federal budget, fiscal policy and monetary policy. Learners are expected to understand basic Algebraic concepts of equations. Learners are encouraged to take the College Board exam at the completion of the course.

SOCIAL STUDIES ELECTIVE

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Dual Credit Psychology	0076AW			X	X	.5	Meet TSI requirements
Dual Credit Sociology	0086AW			X	X	.5	Meet TSI requirements
AP European History	2250			X	X	1	Recommended: AP World History, AP US History or Dual Credit US History
Personal Financial Literacy	2340		X	X	X	.5	None

SOCIAL STUDIES ELECTIVES

0076AW DUAL CREDIT PSYCHOLOGY (COLLEGE CREDIT)

Grade: 11 - 12
Credit: .5
Prerequisite: Meet TSI requirements

An introduction to the field of psychology, dealing with such topics as the scientific method and theories, neuroscience and behavior, perception, consciousness learning, memory, intelligence, motivation, emotion and stress, personality, psychological disorder, therapy and developing person. Discussions and required readings will cover topics discussed in college level courses.

Learners will be responsible for registration with College of the Mainland and any additional book fees.

0086AW DUAL CREDIT SOCIOLOGY (COLLEGE CREDIT)

Grade: 11 - 12
Credit: .5
Prerequisite: Meet TSI requirements

A study of the social nature of human behavior that examines the major sociological theories, concepts, and social institutions. The topics emphasized include culture, society, social interaction, socialization, conformity, deviance, social change, and the social issues relevant to class, race, gender and age. Discussions and required readings will cover topics discussed in college level courses.

Learners will be responsible for registration with College of the Mainland and any additional book fees.

2250 AP EUROPEAN HISTORY

Grade: 11 - 12
Credit: 1
Prerequisite: None
Recommended: AP World History and/or AP United States History/Dual Credit or teacher recommendation.

The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. In addition to providing a basic narrative of events and movements, the goals of AP European History are to develop an understanding of some of the principal themes in modern European history, an ability to analyze historical evidence and historical interpretation, and an ability to express historical understanding in writing.

2340 PERSONAL FINANCIAL LITERACY

Grade: 10 - 12
Credit: .5
Prerequisite: None

This is an interactive and research-based course. The course will cover materials students can use to apply critical thinking and problem solving skills to analyze decisions involving earning and spending, saving and investing, credit and borrowing, insuring and protecting, and college and postsecondary education and training. Students will also evaluate the necessity of a purchase, the quality or value of the purchase or investment compared to the other alternatives, and the total cost of acquisition, particularly in the context of financing options.

Social Studies Requirements for Arts & Humanities or Multidisciplinary Endorsements

World Geography or World History
US History
Government & Economics

Options to above courses:

MAP World Geography
AP Human Geography
AP World History
AP US History
Dual Credit US History
Dual Credit College Government 2305
AP Government
AP Economics

Other Choices to reach a total of 4 Social Studies Credits

Dual Credit Psychology (.5 credit)
Dual Credit Sociology (.5 credit)
World Geography or World History
AP European History
Personal Financial Literacy (.5 credit)

Social Studies Requirements for Business and Industry, Public Services, or STEM Endorsements

Choose three credits.

World Geography or World History
US History
Government & Economics

Options to above courses:

MAP World Geography
AP Human Geography
AP World History
AP US History
Dual Credit US History
Dual Credit College Government 2305 (Federal)
AP Government
AP Economics

SCIENCE

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Biology	4110	X				1	None
MAP Biology	4120	X				1	Teacher Recommendation
Integrated Physics & Chemistry (IPC)	4210	X	X			1	None
Chemistry	4310		X	X		1	Biology; Algebra I
MAP Chemistry	4320		X	X		1	Biology; concurrently enrolled in either MAP Geometry or Algebra II and Teacher Recommendation
Conceptual Chemistry	4200			X		1	Biology, IPC; Algebra I and Teacher Recommendation
Physics	4540			X	X	1	Biology, Chemistry; completed or concurrently enrolled in Algebra II
MAP Physics	4530			X	X	1	Biology, Chemistry; completed or concurrently enrolled in Algebra II and Teacher Recommendation
AP Physics 1	4550			X	X	1	Biology, Chemistry; completed or concurrently enrolled in PreCal and Teacher Recommendation
Technological Principles	4650			X	X	1	Biology, IPC (or Chemistry); Algebra I
AP Biology	4630			X	X	1	Biology, Chemistry, and Teacher Recommendation
AP Chemistry	4330			X	X	1	Chemistry, Algebra II and Teacher Recommendation
AP Physics 2	4730				X	1	Physics; completed or concurrently enrolled in PreCal and Teacher Recommendation
AP Environmental Science	4130			X	X	1	3 units Science (completed Biology & Chemistry) & 3 units Math (one of each may be taken concurrently)

SCIENCE

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Earth & Space Science	4640			X	X	1	3 units of Science & 3 units of Math (one of each may be taken concurrently)
Food Science	5335			X	X	1	3 units of Science (including Biology and Chemistry) Recommended: 1 course from Culinary Arts Program of Study
Forensic Science	4140				X	1	Biology, Chemistry & either IPC, Physics, or Tech Principles Recommended: Algebra II and 1 course from Law & Public Service
Human Body Systems (Weighted)	5425W		X	X	X	1	Biology and completed or concurrently enrolled in Chemistry Recommended: 1 course from Health Science/Biomedical Program of Study
Medical Interventions (Weighted)	5415W			X	X	1	Biology, Chemistry; Principles of Biomedical Science or Human Body Systems
Advanced Animal Science	5155			X	X	1	Biology and IPC or Chemistry; Algebra I, Geometry; either Small Animal Management, Equine Science or Livestock Production
Engineering Science (Weighted)	4900W		X	X	X	1	Introduction to Engineering Design, Algebra 1 Recommended: Geometry
Project Based Research (Zero-hour course that counts as MAP course for grade points earned)	0100	X				1	Concurrent enrollment in MAP Biology
Independent Study/ Mentorship I (Zero-hour course that counts as AP course for grade points earned)	0030 ISM I		X			1	Biology, Concurrent enrollment in MAP Chemistry
Independent Study/ Mentorship (Counts as AP course for grade points earned)	0035 ISM II 0038 ISM III			X	X	1	Biology, Chemistry
Laboratory Management (Counts as local credit)	4400				X	.5 - 1	3 Science Credits; Science Teacher Approval

SCIENCE

Science teachers will provide guidance and counseling regarding student placement in all Science classes.

4110 BIOLOGY

Grade: 9
Credit: 1
Prerequisite: None

In Biology, learners use scientific methods to conduct and make informed decisions using critical-thinking and scientific problem solving. Learners in Biology study a variety of topics that include: structures and functions of cells and viruses; growth and development of organisms; nucleic acids and genetics; biological evolution; taxonomy; and diversity of living organisms; living systems and ecosystems. If you plan to take AP Biology, MAP Biology is recommended over Biology.

4120 MAP BIOLOGY

Grade: 9
Credit: 1
Prerequisite: Teacher Recommendation

The concepts are similar to the regular Biology course but are taught on a higher level, in more detail, and at a faster pace. Learners will be exposed to aspects of biochemistry, cell biology, genetics, biotechnology, evolution, ecology, taxonomy, and human systems. Integral to this course is a laboratory program that stresses accurate observations, data collection, analysis, critical thinking and problem solving skills as well as comprehensive use of laboratory equipment. Good time management skills are necessary to be successful in this class. Learners write lab reports and perform calculations from data collected. Projects are assigned throughout the course; Science Fair participation is optional and/or may substitute for some of these activities. It is recommended that learners who take MAP Biology have previously completed Algebra I.

4210 INTEGRATED PHYSICS AND CHEMISTRY (IPC)

Grade: 9 - 10
Credit: 1
Prerequisite: None

In Integrated Physics and Chemistry, learners conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical- thinking and scientific problem solving. This course integrates the disciplines of physics and chemistry in the following topics: force, motion, waves, energy transformations, properties of matter, changes in matter, and solution chemistry. You may not take this course if you have already successfully completed Chemistry and/or Physics.

4310 CHEMISTRY

Grade: 10 - 11
Credit: 1
Prerequisite: Biology; Algebra I

Chemistry is a course designed to explore concepts of chemistry along with practical applications. The mathematical relationships of chemical concepts are heavily emphasized. Learners will conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical-thinking and scientific problem solving. Learners study a variety of topics that include characteristics of matter; use of the Periodic Table; development of atomic theory and chemical bonding; chemistry reactions; chemical stoichiometry; gas laws, solution chemistry; thermochemistry; and nuclear chemistry. Learners will also investigate how chemistry is an integral part of our daily lives, including an emphasis on green chemistry. **Due to the difference in the curriculums, learners will not be permitted to transfer between Conceptual Chemistry and Chemistry during the year. If you plan to take AP Chemistry, MAP Chemistry is recommended over Chemistry. You may not take this course if you have already passed Conceptual Chemistry.**

4320 MAP CHEMISTRY

Grade: 10-11
Credit: 1
Prerequisite: Biology (MAP Recommended); Concurrent enrollment in MAP Geometry or Algebra II and Teacher Recommendation

MAP Chemistry covers the same content as Chemistry plus additional concepts at a higher level and with more rigor. The MAP Chemistry curriculum teaches many student objectives including: proficiency in using scientific method and laboratory equipment, problem solving using dimensional analysis and the mole concepts, understanding the properties of matter and energy, and describing various chemical reactions quantitatively and qualitatively. This course will provide a more rigorous background and will cover additional concepts needed for learners planning on taking AP Chemistry than the regular Chemistry course offers. Projects are assigned throughout the course; Science Fair participation is optional and/or may substitute for some of these activities. MAP Chemistry learners may participate in Science Fair with concurrent enrollment in Independent Student/Mentorship (ISM)*. You may not take this course if you have already passed Conceptual Chemistry. **Due to the difference in the curriculums, learners will not be permitted to transfer between Conceptual Chemistry and MAP Chemistry during the year.**
* (See Independent Study/Mentorship)

4200 CONCEPTUAL CHEMISTRY

Grade: 11
Credit: 1
Prerequisite: Biology, IPC, Algebra I, and Teacher Approval

The Conceptual Chemistry curriculum does not prepare the student for college chemistry. Conceptual Chemistry is designed to teach the same content as Chemistry on a fundamental level. This lab-based course is designed to help learners realize the important role that chemistry will play in their personal and professional lives; to demonstrate the use of the principles of chemistry; to think more intelligently about issues they will encounter that involve science and technology; to develop a lifelong awareness of the potential and limitations of science and technology; and to study environmental and social issues from a chemical point of view. **Due to the difference in the curriculums, learners will not be permitted to transfer from Conceptual Chemistry to Chemistry during the year.** You may not take this course if you have already passed Chemistry.

Previous EOC scores and grades in Science and Math are reviewed prior to placement.

4540 PHYSICS

Grade: 11-12
Credit: 1
Prerequisite: Biology, Chemistry; Completed or concurrent enrollment in Algebra II

In Physics, learners conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical-thinking and scientific problem solving. Learners study a variety of topics that include: laws of motion, changes with physical systems and conversion of energy and momentum; forces; thermodynamics; characteristics and behavior of waves; light, electricity and magnetism; and atomic, nuclear and quantum physics. Learners who successfully complete Physics will acquire factual knowledge within a conceptual framework, practice experimental design and interpretation, work collaboratively with peers, and develop critical thinking skills. **If you are planning on taking AP Physics 2, AP Physics 1 is recommended over Physics. It is recommended that learners complete Algebra II prior to taking Physics.**

4530 MAP PHYSICS

Grade: 11-12
Credit: 1
Prerequisite: Biology, Chemistry (MAP Chemistry Recommended); completed or concurrent enrollment in Algebra II (MAP recommended), and Teacher Recommendation

The MAP Physics course will cover all of the topics covered in the standard physics course at a higher level and in more detail. Learners will study a variety of topics that include: laws of motion, changes within or to physical systems, conservation of energy and momentum, force, thermodynamics, characteristics and behavior of waves, sound, light, electrostatics, electricity, magnetism, and quantum physics. Projects are assigned throughout the course; Science Fair participation is optional and may substitute for some of these activities. MAP Physics will enable learners to prepare for the AP Physics 2 class, however AP Physics 1 is recommended.

4550 AP PHYSICS 1

Grade: 11-12
Credit: 1
Prerequisite: Chemistry (MAP Chemistry recommended); completed or concurrent enrollment in Pre-Calculus (MAP Pre-Calculus recommended)

AP Physics 1 is an Algebra-based, introductory college-level physics course that explores topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills. Learners will use a college textbook and the student completingthis course will have a well-rounded preparation to take the Advanced Placement Physics 1 exam for college credit.

4650 TECHNOLOGICAL PRINCIPLES

Grade: 11-12
Credit: 1
Prerequisite: Biology, IPC or Chemistry; Algebra I

The Technological Principles curriculum does not prepare students for college physics. Learners conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Various systems will be described in terms of space, time, energy, and matter. Learners will study a variety of topics that include laws of motion, conservation of energy, momentum, electricity, magnetism, thermodynamics, and characteristics and behavior of waves.

4630 AP BIOLOGY

Grade: 11-12
Credit: 1
Prerequisite: Biology (MAP Biology recommended), Chemistry, and Teacher Recommendation

This course offers learners a college level curriculum equivalent to an introductory biology course in the freshman year of college and follows the syllabus set by the Development Committee of the College Board. Two major goals of AP Biology are to help learners develop a conceptual framework for modern biology and to help learners gain an appreciation of science as a process. Included within this course are advanced laboratory investigations, which are experimental, analytical, and qualitative in nature. Learners will develop an advanced background in biotechnology (such as DNA restriction analysis), molecular genetics, biochemistry, cells, heredity, evolution, and ecology. Learners will be using a college textbook, and the student completing this course in May will have a well-rounded preparation to take the Advanced Placement Biology exam for college credit.

4330 AP CHEMISTRY

Grade: 11-12
Credit: 1
Prerequisite: Chemistry (MAP Chemistry recommended); Algebra II (MAP Algebra II recommended) and Teacher Recommendation

This course is designed to be the equivalent of the general chemistry course usually taken during the first year of college and requires an equivalent commitment of study, effort, and participation. Included in this course are advanced investigations and presentations of the structure of matter and atomic spectra, the wave particle theory, kinetic theory of gases, chemical bonding, chemical equilibrium, chemical kinetics, electrochemistry and the basic concepts of thermodynamics. Class work involves lecture and lab. Learners will use a college textbook and the student completing this course will have a well-rounded preparation to take the Advanced Placement Chemistry exam for college credit.

4730 AP PHYSICS 2

Grade: 12
Credit: 1
Prerequisite: Physics (AP Physics I recommended); Completed or concurrently enrolled in Pre-Calculus (MAP Pre-Calculus recommended)

AP Physics 2 is an Algebra-based, introductory college-level physics course that explores topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Through inquiry-based learning, students will develop scientific critical thinking and reasoning skills. Learners will use a college textbook and the student completing this course will have a well-rounded preparation to take the Advanced Placement Physics 2 exam for college credit.

4130 AP ENVIRONMENTAL SCIENCE

Grade: 11–12
Credit: 1
Prerequisites: Three units of science (including Biology and Chemistry) and three units of mathematics (one of each may be taken concurrently).
This course is recommended for learners in grade 12, but may be taken by self-motivated learners in grade 11.

The goal of the AP Environmental Science course is to provide learners with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary; it embraces a wide variety of topics from different areas of study. AP Environmental Science is intended to enable learners to undertake a more advanced study of topics in environmental science or, alternatively, to fulfill a basic requirement for a laboratory science and thus free time for taking other courses while in college. Learners will be using a college text, and the student completing this course will have a well-rounded preparation to take the Advanced Placement Environmental Science Exam for college credit.

4640 EARTH AND SPACE SCIENCE

Grade: 11–12
Credit: 1
Prerequisites: Three units of science and three units of mathematics (one of which may be taken concurrently).
This course is recommended for learners in grade 12, but may be taken by self-motivated learners in grade 11.

Earth and Space Science (ESS) is a capstone course designed to build on learners' prior scientific and academic knowledge and skills to develop an understanding of the Earth's System in space and time. The Earth and Space Science course will serve as a culminating science course in a student's high school experience while applying and integrating the science concepts and principles learned in previous grades, examining authentic situations that extend beyond the boundaries of the classroom, and incorporating critical-thinking and collaboration skills.

5335 FOOD SCIENCE

Grade: 11-12
Credit: 1
Prerequisite: 3 units of Science (including Biology and Chemistry)
Recommended: 1 course from Culinary Arts Program of Study

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. Topics of study include: principles of food safety and microbiology, chemical properties of food, functions of enzymes, how leavening agents are used in baking, purposes of additives in foods, physiology of digestion, metabolism and how food provides energy, and basic nutrients and their specific properties related to food science such as carbohydrates, fats, protein, vitamins and minerals, and water.

4140 FORENSIC SCIENCE

Grade: 12
Credit: 1
Prerequisite: Biology, Chemistry and either IPC, Physics or Tech Principles
Recommended: Algebra II and 1 course from Law & Public Service

Forensic Science is a course that uses a structured and scientific approach to the investigation of crimes of assault, abuse and neglect, domestic violence, accidental death, homicide, and the psychology of criminal behavior. Learners will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection, and scientific procedures used to solve crimes. Using scientific methods, learners will collect and analyze evidence through case studies and simulated crime scenes such as fingerprint analysis, ballistics, blood spatter analysis and DNA analysis. Learners will learn the history, legal aspects, and career options for Forensic Science.

5425W HUMAN BODY SYSTEMS, WEIGHTED COURSE

Grade: 10-12
Credit: 1
Prerequisite: Biology, completed or concurrent enrollment in Chemistry;
Recommended; 1 course of Health Science/Biomedical Program of Study

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. In this project-based course, students design experiments, investigate the structures and the functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real-world cases, and often play the role of biomedical professionals to solve medical mysteries.

5415W MEDICAL INTERVENTIONS, WEIGHTED COURSE

Grade: 11-12
Credit: 1
Prerequisite: Biology, Chemistry; Principles of Biomedical Science or Human Body Systems

Medical Interventions (Ml) allows students to investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. A “How To” manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios’ students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices and diagnostics.

5155 ADVANCED ANIMAL SCIENCE

Grades: 11-12
Credit: 1
Prerequisite: Biology and IPC or Chemistry; Algebra I, Geometry; either Small Animal Management or Equine Science, or Livestock Production.

This course is designed to build on knowledge gained in prior animal agriculture classes covering such topics as animal reproduction, genetics, anatomy and physiology, nutrition, formulating feed rations, livestock handling, harvesting and marketing of livestock, and research in the field of animal agriculture.

4900W ENGINEERING SCIENCE, WEIGHTED COURSE

Grade: 10-12
Credit: 1
Prerequisite: Introduction to Engineering Design, Algebra 1
Recommended: Geometry

This course explores the field of engineering and engineering technology. Learners will explore various technology systems and manufacturing processes in order to help them understand how engineers and technicians use math, science and technology to solve engineering problems. ES focuses heavily on group design and Project Based Learning. Learners will gain hands on insight into various engineering disciplines. Learners will present a classroom project to a group of engineers for real world feedback at a STEM Fair held at FHS in the spring semester.

4400 LABORATORY MANAGEMENT

Grade: 12
Credit: .5 or 1 (Local)
Prerequisite: 3 science credits, Science Teacher Approval

Laboratory Management offers learners opportunities to observe the conditions, problems, and requirements for teaching science using the laboratory method. The student assists the teacher in the monitoring of student laboratory work and helps the teacher prepare and organize laboratory materials.

0100 PROJECT BASED RESEARCH (Freshman)

Grade: 9
Credit: 1 (Counts as MAP course for grade points earned)
Prerequisite: Concurrent enrollment in MAP Biology

Zero-hour course outside of regular school day.

This Project-Based Research course allows academically advanced freshman students an opportunity to conduct science fair research investigations through an independent study format. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. Students in this course develop, research, and conduct a science fair project under the guidance of a teacher facilitator and a professional in the field of research. This course is designed to support students through the science fair process.

0030 INDEPENDENT STUDY/MENTORSHIP I

Grade: 10
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Biology; concurrent enrollment in MAP Chemistry

Zero hour course outside of regular school day.

This Independent Study Mentorship (ISM) is designed for self-motivated learners with a desire to develop their Independent Science Fair Research Project at a higher level. All Science Fair ISM learners will research, design, and present an Independent Science Fair Project in conjunction with their MAP Chemistry course. [The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals.]

General information:

- Facilitator: Only available to MAP Chemistry learners during zero hour
- Learners meet with a facilitator in a pre-scheduled one on one meeting for 45 minutes once every 2 weeks. Other 45 minute mandatory meetings (general instructions, science fair process, research techniques, etc) are scheduled throughout the year.
- Learners are required to log 140 hours (outside of MAP Chemistry class time) as they develop and complete a senior level science fair project under the guidance of a mentor
- Learners will analyze quantitative data using higher level statistics.
- Grade carries AP points for class rank determination
- A full listing of ISM requirements and time schedules will be given to MAP Chemistry learners the first week of school and a parent meeting will be scheduled to discuss the details
- This course may count as a science credit

0035 INDEPENDENT STUDY/MENTORSHIP II
0038 INDEPENDENT STUDY/MENTORSHIP III

Grade: 11-12
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Biology and Chemistry

Seniors may not enroll in ISM as their 4th year science credit

This Scientific Research and Design course known as ISM allows academically advanced junior, and senior learners an opportunity to conduct career and science research investigations through an independent study mentorship. Students conducts empirical research under the guidance of a teacher facilitator and mentor. [The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals]. Learners must be self-motivated and have transportation to visit off-campus mentors.

Science Requirements for Business and Industry, Public Services, Arts and Humanities, or Multidisciplinary Endorsement

®Biology or MAP Biology

IPC or Chemistry

®Chemistry or MAP Chemistry

Subject to Prerequisite Requirements

® Physics, MAP Physics, AP Physics 1 or
Technological Principles
AP Biology
AP Chemistry
AP Environmental Science
AP Physics 2
Advanced Animal Science
Human Body Systems-Weighted Course
Earth and Space Science
Food Science
Forensic Science
ISM
Medical Interventions – Weighted Course
Engineering Science-Weighted Course

®Denotes Recommended Sequence for College Preparation

Science Requirements for STEM Endorsement

®Biology or MAP Biology

®Chemistry or MAP Chemistry

®Physics, MAP Physics, or AP Physics 1

Choose One to reach a total of Four Science Credits.
OR
If you are meeting the STEM Endorsement requirements by Science Course selection, you must obtain at least TWO additional Science credits.

Subject to Prerequisite Requirements

AP Biology

AP Chemistry

AP Environmental Science

AP Physics 2

Advanced Animal Science

Human Body Systems-Weighted Course

Earth and Space Science

Food Science

Forensic Science

ISM

Medical Interventions – Weighted Course

Engineering Science-Weighted Course

®Denotes Recommended Sequence for College Preparation

MATHEMATICS

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Algebra I	3100	X	X	X	X	1	8th grade Math or Pre Algebra
Geometry	3170	X	X	X	X	1	Algebra I
MAP Geometry	3120	X	X	X	X	1	Algebra I & teacher recommendation
Algebraic Reasoning	3515		X	X		1	Algebra I & Geometry
Algebra II	3210	X	X	X	X	1	Algebra I & Geometry
MAP Algebra II	3220	X	X	X	X	1	Algebra I, Geometry & teacher recommendation
Conceptual Algebra II	3212				X	1	Algebra I & Geometry
Advanced Algebra	3300		X	X	X	1	Algebra II & teacher recommendation
Advanced Algebra - CP	3610				X	1	Algebra II, TSI screening and teacher recommendation
Pre Calculus	3410		X	X	X	1	Algebra II & teacher recommendation
MAP Pre Calculus	3420		X	X	X	1	MAP Algebra II or Algebra II with teacher recommendation
AP Calculus (AB)	3430			X	X	1	MAP Pre Calculus or Pre Calculus with teacher recommendation
AP Calculus (BC)	3460				X	1	AP Calculus AB
AP Statistics	3450		X	X	X	1	Algebra II & teacher recommendation
AP Computer Science This course will count as a math & world language credit	0510		X	X	X	1	Algebra II, Computer Science II and teacher recommendation The math credit will be transcribed as an earned grade with AP weight. The world language credit will be transcribed as a Pass/Fail credit

There will be no Algebra II to Algebraic Reasoning or PreCalculus to Advanced Algebra changes prior to the end of the first nine weeks without a teacher recommendation and without the approval of the Math Specialist, an administrator and counselor.

There is a board approved local requirement for all students to have a minimum of three years of math coursework at the high school, in addition to any credits earned at the junior high.

MATHEMATICS

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Dual Credit College Algebra	3400W				X	.5	Algebra II, teacher recommendation and qualifying TSI score
Dual Credit Mathematics for Business & Social Science w/Coll. Algebra	3405W				X	.5	Algebra II, teacher recommendation and qualifying TSI score
Dual Credit Mathematics for Business & Social Science W/ Calculus	3470W			X	X	.5	Pre Calculus, teacher recommendation and qualifying TSI score
Dual Credit Calculus for Business & Social Sciences	3425W			X	X	.5	Pre Calculus, teacher recommendation and qualifying TSI score
Digital Electronics (Weighted)	3605W			X	X	1	Intro to Engineering Design, Engineering Science or Civil Engineering Architecture, and Geometry
Accounting II	5053			X	X	1	Accounting I

MATHEMATICS

Math teachers will provide guidance and counseling regarding student placement in Math classes.

3100 ALGEBRA I

Grade: 9 - 12
Credit: 1
Prerequisite: 8th grade math or Pre-Algebra

In this course, topics covered include the number system, functionality, combining and factoring polynomials, solving and graphing linear equations and inequalities, solving and graphing quadratic equations, and a basic understanding of exponential functions and their associated graph. Graphing calculators are used to increase learners' understanding by comparing algebraic and graphical representations, collecting and exploring data, and analyzing statistical relationships.

3170 GEOMETRY

Grade: 9 - 12
Credit: 1
Prerequisite: Algebra I

In this course, topics covered include angles, similarity and congruence, transformations, formal proof, and perimeter, area, surface area and volume. Learners use a variety of tools and technology to explore these relationships with emphasis placed on real-world application.

3120 MAP GEOMETRY

Grade: 9 - 12
Credit: 1
Prerequisite: Algebra I and Teacher Recommendation

In MAP Geometry, learners continue to build on the foundations of concepts learned in grades K-8. Learners will use geometric thinking to understand mathematical concepts and the relationships among them. They will study properties and relationships having to do with size, shape, location, direction, and orientation of geometric figures. In addition, they will perceive the connection between geometry and the real and mathematical worlds and use the geometric ideas, relationships and properties to solve problems. Learners will use a variety of representations, tools, and technology to solve meaningful problems by representing and transforming figures and analyzing relationships. Finally, learners will use multiple representations, technology, applications and modeling, and numerical fluency in problem solving contexts.

3515 ALGEBRAIC REASONING

Grade: 10 - 11
Credit: 1
Prerequisite: Algebra I and Geometry

This is a course in which learners will continue to build on experiences and mathematical knowledge from their foundation in Algebra 1 and Geometry. Students will continue their understanding of algebraic processes and deepen their foundation for studies in subsequent math courses. This course will engage learners in activities that broaden their knowledge of functions through analysis and application to the real world. Students will gain a deeper understanding of mathematical concepts and how to apply those concepts to the analysis of information that confronts them in Algebra II.

3210 ALGEBRA II

Grade: 9 - 12
Credit: 1
Prerequisite: Algebra I and Geometry

The Algebra II curriculum serves as the primary foundation of future mathematics courses. Content is designed to extend the concepts presented in Algebra I and Geometry and to explore additional algebraic topics in the areas of linear and quadratic relations and functions, linear and quadratic inequalities, matrices, exponential and logarithmic functions, complex numbers, polynomials and polynomial functions and rational functions.

3220 MAP ALGEBRA II

Grade: 9 - 12
Credit: 1
Prerequisite: Algebra I, Geometry and Teacher Recommendation

MAP Algebra II will cover all the regular topics presented in Algebra II. The curriculum is presented in greater depth and at a more vigorous pace. Refinement and extension of algebraic methods will lead to investigation of the connections and interplay among various mathematical topics and their applications. Problem solving, communication, reasoning, and mathematical disposition will be stressed.

3212 CONCEPTUAL ALGEBRA II

Grade: 12
Credit: 1
Prerequisite: Algebra I and Geometry

The Conceptual Algebra II curriculum is designed to teach the same content as Algebra II on a fundamental level. Learners will continue to build on experiences and mathematical knowledge from their foundation in Algebraic Reasoning. Learners will explore additional algebraic topics in the areas of linear, quadratic, exponential, logarithmic, polynomial, and rational functions.

3300 ADVANCED ALGEBRA

Grade: 10 - 12
Credit: 1
Prerequisite: Algebra II and Teacher Recommendation

This course will provide a strong foundation of algebraic concepts, techniques and applications with a focus on linear, quadratic, exponential, logarithmic, polynomial and trigonometric functions.

3610 ADVANCED ALGEBRA- CP

Grade: 12
Credit: 1
Prerequisite: Algebra II, TSI screening and Teacher Recommendation

This course will provide a strong foundation of algebraic concepts, techniques, and applications with a focus on linear, quadratic, exponential, logarithmic, polynomial and trigonometric functions. FISD will partner with an institution of higher education to provide opportunities to be successful in college-level, credit-bearing courses.

3410 PRE CALCULUS

Grade: 10 - 12
Credit: 1
Prerequisite: Algebra II and Teacher Recommendation

This rigorous college-preparatory course stresses the functional and algebraic approaches to linear, quadratic, polynomial, rational, exponential and logarithmic functions. Also covered are conic sections, polar coordinates, recursion and sequences and series. There is an in-depth study of trigonometry from a geometric, graphical and functional approach. Real-world application is a unifying theme.

3420 MAP PRE CALCULUS

Grade: 10 - 12
Credit: 1
Prerequisite: MAP Algebra II or Algebra II with Teacher Recommendation

This course provides a solid, well-balanced foundation for AP Calculus and college mathematics and covers the same topics as the regular Pre Calculus class (see above) in greater depth and at a faster pace. Also included is an introduction to calculus concepts such as limits and derivatives. Learners are assigned projects that stress real-world application of the material. This course is geared toward learners who intend to take AP Calculus and who desire an in-depth foundation for further college–level mathematics.

3430 AP CALCULUS (AB)

Grade: 11 - 12
Credit: 1
Prerequisite: MAP Pre Calculus or Pre Calculus with Teacher Recommendation

Advanced Placement Calculus covers the topics of elementary functions, differential calculus and integral calculus. Learners who enroll in Advanced Placement Calculus should have a thorough knowledge of algebra, geometry, coordinate geometry, and trigonometry as well as advanced topics in algebra, trigonometry, analytic geometry, and elementary functions. The course is primarily concerned with an intuitive understanding of the concepts of calculus with emphasis on methods and applications. The term is spent on topics in differential and integral calculus, which will prepare the learners for the College Board Advanced Placement test in Calculus (AB). The use of current technology as problem-solving and discovery tools will be integrated throughout the course whenever possible.

3460 AP CALCULUS (BC)

Grade: 12
Credit: 1
Prerequisite: AP Calculus (AB)

Calculus BC is a continuation of Calculus AB. The contents of Calculus BC are designed to qualify the student for placement and credit in a course that is one course beyond that granted for Calculus AB. Topics include extension to topics covered in AP Calculus AB using parametric, polar, and vector functions and sequences and series.

A student enrolled in MAP Pre Calculus that wishes to take the AP Calculus AB exam and progress to AP Calculus BC the following school year must meet the following criteria:

1. The student must earn a 4 or a 5 on the AP Calculus AB exam in May.
2. The student must have an 85 or higher average in MAP Pre Calculus.

If the student does not meet both of these criteria, the student will not be promoted to Calculus BC without taking Calculus AB.
* GT learners see Mrs. Lockhart

3450 AP STATISTICS

Grade: 10 - 12
Credit: 1
Prerequisite: Algebra II and Teacher Recommendation

This Advanced Placement course in statistics will introduce learners to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Learners are exposed to four broad conceptual themes:

Exploring data (Observing patterns and departure from patterns)
Planning a study (Deciding what and how to measure)
Anticipating patterns (Producing models using probability and simulation)
Statistical inference (Confirming models)

0510 AP COMPUTER SCIENCE

Grade: 10-12
Credit: 1
Prerequisite: Algebra II, Computer Science II and teacher recommendation
This course will count as a math and world language credit

The math credit will be transcribed as an earned grade with AP weight. The World Language credit will be transcribed as a Pass/Fail credit

AP Computer Science stresses object-oriented programming methodology (OOP) with an emphasis on problem solving and algorithmic development. This course is meant to be the equivalent of a first semester college course in computer science. It goes beyond merely learning to use applications like word processing, spreadsheets, and internet browsers. Learners with an interest related to engineering, business, the computer professions, bioinformatics, genetics, physics, chemistry, pre-med or math should take this course. This course uses the Java language and focuses on the basic principles needed to design and build applications. At the end of the course, learners will have the choice to take the AP Computer Science test. If a student passes the test, college credit for a semester of computer science may be awarded to the student. Learners will be expected to participate by solving problems, implementing those solutions on the computer, and then testing the problems using reasonable data to ensure accuracy. The problems solved will come from a variety of disciplines including mathematics, physics, chemistry, biology, economics, business and engineering. Students should consider their prior mathematical experiences when considering this course. There will be a strong emphasis on logical reasoning in addition to the use of mathematical concepts from Algebra, Geometry and Statistics. Students are encouraged to compete in local programming contests to improve their programming skills as well as UIL competitions.

3400W DUAL CREDIT COLLEGE ALGEBRA - SM1 (COLLEGE CREDIT)

Grade: 12
Credit: .5
Prerequisite: Algebra II, Teacher Recommendation, Qualifying TSI score

This course covers linear, quadratic, polynomial, exponential and logarithmic functions; systems of equations and inequalities, matrices and determinants.

College of the Mainland equivalent courses: Math 1314.
Learners will be responsible for registration with College of the Mainland and any additional book fees.

3405W DUAL CREDIT MATHEMATICS FOR BUSINESS AND SOCIAL SCIENCES W/COLL ALGEBRA -SM2 (COLLEGE CREDIT)

Grade: 12
Credit: .5
Prerequisite: Partnered with College Algebra: Algebra II, Teacher Recommendation, Qualifying TSI Score

Applications of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

College of the Mainland equivalent courses: Math 1324.
Learners will be responsible for registration with College of the Mainland and any additional book fees.

3470W DUAL CREDIT MATHEMATICS FOR BUSINESS AND SOCIAL SCIENCES W/CALCULUS -SM1 (COLLEGE CREDIT)

Grade: 11 - 12
Credit: .5
Prerequisite: Partnered with Calculus for B&SS: Pre Calculus, Teacher Recommendation, Qualifying TSI Score

Applications of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

College of the Mainland equivalent courses: Math 1324.
Learners will be responsible for registration with College of the Mainland and any additional book fees.

3425W DUAL CREDIT CALCULUS FOR BUSINESS AND SOCIAL SCIENCES - SM2 (COLLEGE CREDIT)

Grade: 11 - 12
Credit: .5
Prerequisite: Pre Calculus, Mathematics for Business and Social Sciences, Qualifying TSI score

This course is basic study of limits and continuity, differentiation, optimization and graphing, and integration of elementary functions, with emphasis on applications in business, economics, and social sciences.

College of the Mainland equivalent courses: Math 1325.
Learners will be responsible for registration with College of the Mainland and any additional book fees.

3605W DIGITAL ELECTRONICS, WEIGHTED COURSE (DE)

Grade: 11-12
Credit: 1
Prerequisite: Introduction to Engineering Design, Engineering Science or Civil Engineering and Architecture, Geometry
This course may count as Math credit.

This course is designed to teach you about applied logic, which introduces you to the basics of electronics and digital systems – the building blocks to many products you use. The course is designed to expose learners to engineering design and troubleshooting techniques that are used in the electronics field. Computer simulation software is used to design and test digital circuitry in addition to actually constructing them. The projects are traditional in which you will learn how machines "think." You will also learn a systematic approach that engineers use to design the electronics that are used every day. Learners taking this class will be required to present one of the classroom projects to a group of engineers at a stem fair held at FHS during the spring semester for real world feedback and insight in the field.

5053 ACCOUNTING II

Grades: 11 - 12
Credit: 1
Prerequisite: Accounting I

Accounting II emphasizes the computer applications of accounting principles through on-line curriculum. Students will review the full accounting cycle on the computer. Additional concepts will be introduced in this course to advance the student's knowledge of the accounting field. The course will cover such topics as careers in accounting, review of the accounting cycle, partnerships, corporations, departmentalized accounting, delinquent accounts, plant assets, accruals, financial statement analysis, cash accounting, budgeting, computerized payroll problems and management decision making.

Math Requirements for
Business and Industry, Public Service, Arts & Humanities,
Multi Disciplinary Studies Endorsement

®ALGEBRA

®GEOMETRY

Choose TWO credits to reach a total of four math credits, subject to appropriate prerequisites.

Algebraic Reasoning
® *Algebra II - L
Advanced Algebra
® *Pre Calculus
Calculus AB
® AP Calculus AB
® AP Calculus BC
AP Statistics
AP Computer Science
Dual Credit College Algebra and Dual Credit Math for B&SS
Dual Credit Math for B&SS and Dual Credit Calculus for B&SS
Digital Electronics, Weighted Course
Accounting II

*These courses are also offered at the MAP Level
®Denotes recommended sequence for STEM College Preparation
Algebra II will be a Local Requirement for all Endorsements

Math Requirements for STEM Endorsement

® ALGEBRA

® GEOMETRY

® ALGEBRA II

Choose one to reach a total of Four Math Credits
OR
If you are meeting the STEM Endorsement requirements
by Math Course selection–
you must obtain at least TWO credits that have Algebra II as a prerequisite.

Advanced Algebra

® *Pre Calculus

® AP Calculus AB

AP Calculus BC

AP Statistics

AP Computer Science

Dual Credit College Algebra and Dual Credit Math for B&SS

Dual Credit Math for B&SS and Dual Credit Calculus for B&SS

*These courses are also offered at the MAP Level
®Denotes recommended sequence for STEM College Preparation

WORLD LANGUAGE

COURSE NAME	COURSE NUMBER	GRADE PLACMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
French I	6101	X	X	X	X	1	None
French II	6102	X	X	X	X	1	French I
MAP French II	6107	X	X	X	X	1	Recommended: Grade of 85 or better in French I or 8th grade French I
French III	6103		X	X	X	1	French II
MAP French III	6108		X	X	X	1	Recommended: Grade of 85 or better in MAP French II; grade of 90 or better in French II
AP French IV	6110			X	X	1	Recommended: Grade of 85 or better in MAP French III; grade of 90 or better in French III
French Seminar (available 2022-23)	0000				X	1	Recommended: Grade of 85 or better in AP French IV. The French Seminar credit will be transcribed as a Pass/Fail credit.
German I	6001	X	X	X	X	1	None
German II	6002	X	X	X	X	1	German I
MAP German II	6007	X	X	X	X	1	Recommended: Grade of 90 or better in German I or 8th grade German I
German III	6003		X	X	X	1	German II
MAP German III	6008		X	X	X	1	Recommended: Grade of 85 or better in MAP German II; grade of 90 or better in German II
AP German IV	6006			X	X	1	Recommended: Grade of 85 or better in MAP German III; grade of 90 or better in German III
German Seminar	6011				X	1	Recommended: Grade of 85 or better in AP German IV. The German Seminar credit will be transcribed as a Pass/Fail credit.
Latin I	6301	X	X	X	X	1	None
Latin II	6302	X	X	X	X	1	Latin I
MAP Latin II	6307	X	X	X	X	1	Recommended: Grade of 90 or better in Latin I

WORLD LANGUAGE CONTINUED

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
MAP Latin III	6303		X	X	X	1	Recommended: Grade of 85 or better in MAP Latin II; grade of 90 or better in Latin II; teacher recommendation
AP Latin IV	6304			X	X	1	Recommended: Grade of 85 or better in MAP Latin III
Latin Seminar	6308				X	1	Recommended: Grade of 85 or better in AP Latin IV The Latin Seminar credit will be transcribed as a Pass/Fail credit.
Spanish I	6201	X	X	X	X	1	None
Spanish II	6202	X	X	X	X	1	Spanish I
MAP Spanish II	6207	X	X	X	X	1	Recommended: Grade of 90 or better in level I or 8th grade Spanish I
Spanish III	6203		X	X	X	1	Recommended: Grade of 85 or better in Spanish II
MAP Spanish III	6208		X	X	X	1	Recommended: Grade of 85 or better in MAP Spanish II; grade of 90 or better in Spanish II
AP Spanish IV	6209			X	X	1	Recommended: Grade of 85 or better in MAP Spanish III; grade of 90 or better in Spanish III
Spanish Seminar	6211				X	1	Recommended: Grade of 85 or better in AP Spanish IV The Spanish Seminar credit will be transcribed as a Pass/Fail credit.
AP Computer Science Principles This course may count as a world language credit	0505	X	X	X	X	1	Geometry
AP Computer Science This course will count as a math & world language credit	0510		X	X	X	1	Algebra II, Computer Science II and teacher recommendation The math credit will be transcribed as an earned grade with AP weight. The world language credit will be transcribed as a Pass/Fail credit

WORLD LANGUAGES

6101 FRENCH I

Grade: 9 - 12
Credit: 1
Prerequisite: None

The French language is introduced in this course using speaking, listening, reading and writing activities. Learners learn basic communicative functions and vocabulary. The present tense, imperfect and passé composé are used throughout level I. 80% mastery is recommended to ensure success at the next level.

6102 FRENCH II

Grade: 9 - 12
Credit: 1
Prerequisite: French I

After a review of first year objectives, the future, imperfect and conditional verb tenses are introduced. Reflexive verb constructions and the correct placement of object pronouns are taught. Learners learn more about francophone cultures through reading poems and prose, and act out skits. Reading, writing, speaking and listening skills continue to be perfected. 80% mastery is recommended to ensure success at the next level.

6107 MAP FRENCH II

Grade: 9 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in Level I or 8th grade French I

This course is for the intellectually motivated student, wishing for a college preparatory course. MAP French II reinforces the skills previously learned in French I: listening, speaking, reading, writing and cultural awareness. Learners are expected to demonstrate proficiency in each of these areas. Class activities are designed to develop opportunities to practice and acquire an extensive authentic vocabulary for use in a wide variety of real-life situations.

6103 FRENCH III

Grade: 10 - 12
Credit: 1
Prerequisite: French II

Learners continue to learn the French language through the development of their writing, listening and speaking skills with particular emphasis on reading. The imperfect, the future, the conditional, and the subjunctive are more thoroughly explored in order to read and discuss longer poem and prose selections, as French literary works are introduced. With the knowledge of these grammatical skills, learners will find it easier to read, write, and converse in French.

6108 MAP FRENCH III

Grade: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in MAP French II, grade of 90 or better in French II

MAP French III is an advanced-intermediate course for learners preparing for the AP exam and wishing for a college preparatory atmosphere. Learners are expected to have attained the Intermediate High Level of mastery before entering the course. Development in all skills continues with the goal of exposing learners to a maximum amount of language and a wide variety of texts, both oral and written. Communication in the class will be in French as much as possible.

6110 AP FRENCH IV

Grade: 11 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in MAP French III, grade of 90 or better in French III

This class develops comprehension of formal and informal spoken French, vocabulary and structures which allow the reading of authentic materials; expository composition skills and accurate and fluent oral expression. Communication in class will be in the target language as much as possible. Speaking fluency continues to be stressed by conversing in French and working with partners using dialogues. Listening skills are strengthened through podcasts. Practice tests for the AP exam are given periodically to gauge learners' progress.

0000 FRENCH SEMINAR (available 2022-23)

Grade: 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in AP French IV
The French Seminar credit will be transcribed as a Pass/Fail credit.

This French class for seniors will be combined with AP French IV. The purpose of this class is to further build fluency andcontinue thematic exposure to French culture through authentic materials. Students will be given the opportunity to take the AP exam by the end of this class.

6001 GERMAN I

Grade: 9 - 12
Credit: 1
Prerequisite: None

This course introduces learners to the German language and its culture. It also develops listening, reading, speaking, and writing skills, as well as cross-cultural understanding. Correct pronunciation is cultivated through audio & video media and teacher modeling. Learners will learn about social customs, geography and German history through projects and textbook driven materials. 80% mastery recommended to ensure success at the next level.

6002 GERMAN II

Grade: 9 - 12
Credit: 1
Prerequisite: German 1

This course reinforces the skills previously learned in German I. The course expands ability in aural comprehension, oral competency, reading, and writing. It develops insights into German customs, history, art, music, and literature. Learners will continue learning more complex grammatical structures through listening, speaking, writing, and reading. 80% mastery recommended to ensure success at the next level.

6007 MAP GERMAN II

Grade: 9 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 90 or better in Level I or 8th grade German I

This course is a course for the intellectually motivated student wishing for a college preparatory course. This course reinforces the skills previously learned in German I: listening, reading, writing, speaking, and cultural competence. Learners are expected to demonstrate proficiency in all these areas. The instructional pace is accelerated and more intensive than that of the regular classroom. Class activities are designed to develop opportunities to practice and to acquire an extensive authentic vocabulary in a wide variety of real life situations.

6003 GERMAN III

Grade: 10 - 12
Credit: 1
Prerequisite: German 2

On this level, conversation and comprehensive grammar are highly emphasized. Learners are expected to converse more freely and easily with the teacher. Grammar skills are pulled into a comprehensive whole in the context of written work. Thematic units are used as the context for linguistic learning.

6008 MAP GERMAN III

Grade: 10 - 12
Credit: 1
Prerequisite: Recommended: Grade of 85 or better in MAP German II, grade of 90 or better in German II

This course is an advanced-intermediate course for learners preparing for the AP exam and wishing for a college preparatory atmosphere. Development in all skills continues with the goal of exposing learners to a maximum amount of language and a wide variety of texts, both oral and written. Communication in class will be nearly in the target language.

6006 AP GERMAN IV

Grade: 11 - 12
Credit: 1
Prerequisite: Recommended: Grade of 85 or better in MAP German III, grade of 90 or better in German III

This class develops comprehension of formal and informal spoken German, vocabulary and structures which allow the reading of authentic materials; expository composition skills and accurate and fluent oral expression. Communication in class will be in the target language as much as possible. Speaking fluency continues to be stressed by conversing in German and working with partners using dialogues. Listening skills are strengthened through podcasts. Practice tests for the AP exam are given periodically to gauge learners' progress.

6011 GERMAN SEMINAR

Grade: 12
Credit: 1
Prerequisite: Recommended: Grade of 85 or better in AP German IV
The German Seminar credit will be transcribed as a Pass/Fail credit.

This German class for seniors will be combined with AP German IV. The purpose of this class is to further build fluency and continue thematic exposure to German culture through authentic materials. Students will be given the opportunity to take the AP exam by the end of this class.

6301 LATIN I

Grade: 9 - 12
Credit: 1
Prerequisite: None

Learners will gain a basic understanding of Latin syntax and conversational idioms. They will learn to comprehend and present information in both written and oral media. They will gain knowledge and understanding of Roman culture through the study of various cities and their customs during the height of the Roman Empire. Throughout the course, learners will begin to understand the pervasive influence of Latin in all avenues of our lives, linguistically and culturally. 80% mastery is recommended to ensure success at the next level.

6302 LATIN II

Grade: 9 - 12
Credit: 1
Prerequisite: Latin I

In Latin II, learners will further develop comprehension of the Latin Language. By the end of the course, learners should demonstrate a firm understanding of basic Latin communication. They will continue learning to comprehend and present information in written and oral media, with increasingly more sophisticated grammar and syntax. Student discovery of Roman culture will continue as well as their exploration of the influence of Latin. 80% mastery is recommended to ensure success at the next level.

6307 MAP LATIN II

Grade: 9 - 12
Credit: 1
Prerequisite: Recommended: Grade of 90 or better in Latin I

The objectives are the same as Latin II; the intellectually motivated student looking for a challenge will find more rigorous content, pace, and assessment. MAP curriculum is designed to prepare the student for Advanced Placement, which adheres to university level guidelines and standards. Learners will learn, in depth, advanced grammatical concepts, many of which do not exist in the English Language. In addition, MAP learners will be introduced to the life and writings of Julius Caesar, in preparation for AP curriculum. MAP Latin II is strongly recommended for the student seeking more than the minimum foreign language requirement.

6303 MAP LATIN III

Grade: 10 - 12
Credit: 1
Prerequisite: Recommended: Grade of 85 or better in MAP Latin II, grade of 90 or better in Latin II

Having achieved a basic understanding of written and oral Latin communication and fundamental Latin grammar, learners will now learn to apply these fundamental skills to classical Latin. Learners will look more closely at idiomatic intricacies of classical Latin and learn to analyze and synthesize the fundamental skills they learned at previous levels. Learners will also spend the Spring semester learning to read and interpret portions of Julius Caesar's In Bello Gallico

6304 AP LATIN IV

Grade: 11 - 12
Credit: 1
Prerequisite: Recommended: Grade of 85 or bettr in MAP Latin III

Learners will translate excerpts from Books 1, 2, 4, & 6 of Vergil's Aeneid as well as Books 2, 4, 5 & 6 of Julius Caesar's In Bello Gallico. Learners will also familiarize themselves with the works as a whole in both translation and the original Latin. They will learn to scan dactylic hexameter and to recognize the literary, poetic & rhetorical devices typical of these masterpieces. In addition, we will begin working on the skills necessary to translate unseen passages from various Roman poets and authors.

6308 LATIN SEMINAR

Grade: 12
Credit: 1
Prerequisite: Recommended: Grade of 85 or bettr in AP Latin IV
The Latin Seminar credit will be transcribed as a Pass/Fail credit.

This Latin class for seniors will be combined with AP Latin IV. The purpose of this class is to further build reading fluency and analysis of the poetic language of Vergil and Caesar's rhetoric. Students will be given the opportunity to take the AP exam by the end of this class.

6201 SPANISH I

Grade: 9 - 12
Credit: 1
Prerequisite: None

Spanish I is a course of listening, speaking, reading, and writing drills. Learners listen at first, then begin to repeat, respond and generate thoughts of their own. A chapter by chapter vocabulary, based on everyday life activities, serves as the basis for reading, writing, listening and speaking drills. Oral proficiency is assessed on individual guided conversations or paired groupings. Grammar focuses on the present tense conjugation of regular and a few irregular verbs; the preterit conjugation of regular verbs; agreement and placement of adjectives and possessive and demonstrative adjectives. Cultural material is an overview of the Spanish-speaking people and their homelands. 80% mastery is recommended to ensure success at the next level.

6202 SPANISH II

Grade: 9 - 12
Credit: 1
Prerequisite: Spanish I

Spanish II is a course of listening, speaking, reading, and writing skills that are developed with extra emphasis on reading and speaking. Oral proficiency is developed with daily tasks involving listening and speaking. Learners frequently work in groups or other pairings in guided conversations as well as creative composition writing. The study of grammar includes the two past tenses, (preterit and imperfect) as well as the future, conditional, command forms. The concept of the subjunctive is introduced as well. Also included is chapter by chapter vocabulary to serve as a base for conversations about everyday topics and narratives. Cultural material is oriented toward Hispanic life and the study of traditions and leisure. 80% mastery is recommended to ensure success at the next level.

6207 MAP SPANISH II

Grade: 9 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 90 or better in Level I or 8th grade Spanish I

This course is for the intellectually motivated student desiring more rigorous content and assessments. The learners in Pre-AP Spanish II are expected to demonstrate mastery of reading, writing, speaking and listening skills introduced in Spanish I. They must also demonstrate cultural awareness. Classroom activities permit opportunities to practice and acquire an extensive authentic vocabulary in a wide variety of real-life situations.

6203 SPANISH III

Grade: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in Spanish II

Spanish III is a course of listening, speaking, reading, and writing skills that are developed in a step-by-step process. Class is conducted as much as possible in Spanish. Each chapter focuses on cultural and historical topics related to the Spanish-speaking world. Learners are encouraged to use the language to discuss life events. Learners develop reading comprehension skills by reading popular literature and folk legends as well as items from other sources. The advanced tenses of verbs are studied and vocabulary continues to expand. Compositions reinforce the grammar and vocabulary presented in class. Oral proficiency is developed with conversations and discussions about the above topics. An exit grade in Spanish II of 85 or better is strongly recommended to ensure success in a Level III environment.

6208 MAP SPANISH III

Grade: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in MAP Spanish II, grade of 90 or better in Spanish II

This course is an advanced-intermediate course for learners preparing for the AP Spanish Language Exam. Development of all skills (reading, writing, listening and speaking) continues with the goal of exposing learners to a maximum amount of language and a wide variety of texts, both written and oral. Communication in the class will be in Spanish as much as possible.

6209 AP SPANISH IV

Grade: 11 - 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in MAP Spanish III, grade of 90 or better in Spanish III

AP Spanish IV teaches the learners to express themselves coherently and resourcefully. Learners are given multiple opportunities each year to practice each skill set tested on the AP Spanish Language and Culture Exam. The ultimate goal of the learner is to communicate with reasonable fluency and accuracy in both written and spoken Spanish. Communication in class will be in the target language as much as possible. As determined by AP guidelines, this course seeks to further develop reading, writing, listening and speaking skills that can be used to explore and understand the six AP themes. Vocabulary and grammar structures are reviewed and enhanced through the reading of authentic resources. The course participants work towards accurate and fluent oral and written expression (formal and informal). Extensive training in the organization and writing of compositions is emphasized. Listening skills are strengthened by exposure to a variety of accents and themes.

6211 SPANISH SEMINAR

Grade: 12
Credit: 1
Prerequisite: None
Recommended: Grade of 85 or better in AP Spanish IV
The Spanish Seminar credit will be transcribed as a Pass/Fail credit.

This Spanish class for seniors will be combined with AP Spanish IV. The purpose of this class is to further build fluency and continue thematic exposure to Spanish culture through authentic materials while simultaneously preparing authentic and engaging lessons to be taught to elementary school students during the school year.. Students will be given the opportunity to take the AP exam by the end of this class.

0505 AP COMPUTER SCIENCE PRINCIPLES

Grade: 9 - 12
Credit: 1
Prerequisite: Geometry. Freshmen can enroll in the course if they are taking MAP Algebra II
This course may count as a world language credit

MAP CS and the AP CS classes are not necessary to enroll in this course. It is a survey of computer science and not a programming course like AP CS. The course will teach technological skills of the 21st century.

This course will help learners problem solve, analyze data, be creative thinkers and collaborate while learning new computer skills. This course is taught with two concurrent computer science strands: creativity and principles. The creativity theme topics arc: Computing as a creative activity, processing of data creates knowledge, abstraction, levels of abstraction, managing complexity, computational thinking and programming and debugging. The Principles theme topics are: Data and information, algorithms, basic ideas behind technologies including computers, networks, search engines, and multimedia. Topics also include social uses and abuses of information, and the foundations of privacy.

0510 AP COMPUTER SCIENCE

Grade: 10 - 12
Credit: 1
Prerequisite: Algebra II, Computer Science II and teacher recommendation
This course will count as a math and world language credit

The math credit will be transcribed as an earned grade with AP weight.
The world language credit will be transcribed as a Pass/Fail credit.

AP Computer Science stresses object-oriented programming methodology (OOP) with an emphasis on problem solving and algorithmic development. This course is meant to be the equivalent of a first semester college course in computer science. It goes beyond merely learning to use applications like word processing, spreadsheets, and Internet browsers. Learners with an interest related to engineering, business, the computer professions, bioinformatics, genetics, physics, chemistry, pre-med or math should take this course. This course uses the Java language and focuses on the basic principles needed to design and build applications. At the end of the course, learners will have the choice to take the AP Computer Science test. If a student passes the test, college credit for a semester of computer science may be awarded to the student. Learners will be expected to participate by solving problems, implementing those solutions on the computer, and then testing the problems using reasonable data to ensure accuracy. The problems solved will come from a variety of disciplines including mathematics, physics, chemistry, biology, economics, business and engineering. Students should consider their prior mathematical experiences when considering this course. There will be a strong emphasis on logical reasoning in addition to the use of mathematical concepts from Algebra, Geometry and Statistics. Students are encouraged to compete in local programming contests to improve their programming skills as well UIL competitions.

PHYSICAL EDUCATION

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Physical Education - Aerobic Activity	BOYS - 9606A GIRLS - 9006A	X	X	X	X	1	None
Physical Education - Team Sports	BOYS - 9600B GIRLS - 9000B	X	X	X	X	1	None
Health (Principles of Health Science can be substituted for the required .5 credit of Health.)	9405	X	X	X	X	.5	None
Boys Athletics	Refer to course number sheet	X	X	X	X	1	Tryout*
Girls Athletics	Refer to course number sheet	X	X	X	X	1	Tryout*
Dance	9010P	X	X	X	X	1	None
Drill Training	9014P	X	X	X		1	Audition
Dance Wellness	9075P		X	X	X	1	Performance Based Assessment: Athletics
Advanced Dance	9017P		X	X	X	1	Dance, Audition; Instructor Approval
Cheerleading	Refer to course number sheet	X	X	X	X	1	Tryout*
Athletic Training	Refer to course number sheet	X	X	X	X	1	Application & Interview

***Refer to grade level sheets for course numbers**

**Tryouts required for: Baseball, Basketball, Golf, Soccer, Softball, Swimming, Tennis, Volleyball and Cheerleading

*** Coach's approval and signature required on choice sheet to be in Baseball, Basketball, Cross Country, Football, Golf, Soccer, Softball, Swimming, Tennis, Track, Volleyball and Wrestling Athletic period. No freshman allowed into 7th period athletics without coach's consent.

PHYSICAL EDUCATION

9606A BOYS PHYSICAL EDUCATION - AEROBIC ACTIVITY
9006A GIRLS PHYSICAL EDUCATION - AEROBIC ACTIVITY

Grade: 9 - 12
Credit: 1
Prerequisite: None

Learners are expected to participate in a wide range of sports that can be pursued for a lifetime. The continued development of health-related fitness and the selection of sport activities that are enjoyable are major objectives of this course. Learners will be expected to exhibit a level of competency in two or more sports.

9600B BOYS PHYSICAL EDUCATION - TEAM SPORTS
9000B GIRLS PHYSICAL EDUCATION - TEAM SPORTS

Grade: 9 - 12
Credit: 1
Prerequisite: None

Learners enrolled in Team Sports are expected to develop health-related fitness and an appreciation for teamwork and fair play. The study of team sports includes rules, strategies, safety and protocol of each, and is an integral part of an overall Lifetime Fitness program. The inclusion of lifetime recreational activities and sports emphasizes, encourages, and promotes positive personal wellness, fitness and healthy habits. This course reinforces the concept of incorporating physical activity into a lifestyle beyond high school.

MEDICAL EXCUSES DO NOT EXEMPT A STUDENT FROM THE P.E. REQUIREMENT OF ONE CREDIT.

All learners are required to take 1 credit of Physical Education. A medical excuse does not constitute a waiver of physical education requirements. (Learners may be classified for physical education on the basis of health or disability as unrestricted, restricted, and adapted or remedial instruction as per Chapter 75.151 of the State of Texas Education Code.) Learners may substitute certain physical activities for the 1 required unit of physical education.

9405 HEALTH

Grade: 9 - 12
Credit: .5
Prerequisite: None

The principles of health education at Friendswood High School deal with aspects of physical, mental, and social well being with special emphasis on preventive techniques. Students learn how to approach health problems of the teenage years, and how to reduce the risk of adult health problems. Health education encourages learners to look closely at their own life-styles, learn the skills necessary for changing negative behavior, and set goals for improving their well being. Reinforcement of the importance of responsible decision making to good health is also emphasized. Training in First Aide and CPR is included in this course.
Principles of Health Science can be substituted for the required .5 credit of Health.

Information Packet for Off-Campus Physical Education Substitution

Friendswood ISD Grades 6th (Level 1 Olympic Only) and 7th – 12th (Level 1 and Level II)

In order to honor your request for physical education substitution, comply with required curriculum standards, and maintain quality education for the whole child, Friendswood ISD has provided guidelines and procedures to facilitate the physical education substitution process. These guidelines ensure that FISD remains in compliance with FISD policy. (Local and Legal)

PRIVATE OR COMMERCIALLY SPONSORED PHYSICAL ACTIVITY PROGRAMS:

The Board may award up to 4 credits, which may be substituted for state graduation credit in physical education in appropriate private or commercially sponsored physical activity programs conducted either on or off campus, upon approval by the Commission of Education. 19 TAC 74.11

OTHER PHYSICAL ACTIVITY PROGRAMS

The district may award up to 4 credits for physical education for appropriate private of commercially sponsored physical activity programs conducted either on or off campus, upon approval by the commissioner of education.

The FISD guidelines below should be considered before application to the program.

- Examples of physical activities include but are not limited to:
  Ice-skating, Ice hockey, Equestrian training, Gymnastics, Competitive dance, and Ballet
- The physical activity program is conducted by a private or commercially sponsored center, which provides **BOTH** instruction and physical application.
- Level 1 Olympic-Time on task equals no less than ***15 hours per week*** under the direct supervision of a coach or professional trainer, not to include actual time in competition performance, or travel time. Time on task must occur Monday through Friday. Weekend training hours do not count toward the total 15 hours.
- Level II time on task equals no less than ***5 hours per week***, under the direct supervision of a private or commercially sponsored physical activities program and is certified by the superintendent to be of high quality and well supervised by appropriately trained instructors. Time on task must occur Monday through Friday.
- Parents are responsible for providing transportation to and from the physical activity program.
- The student may participate in the Fitness-gram Fitness Test at the pretest and post-test levels.
- **Documentation by nine-week period of attendance and assessment of achievement in the substituted activity is to be submitted to FJH/FHS prior to the end of each grading period. *Participation will be denied if documentation is not submitted in a timely manner*. Grade weight: 60% from coach, 40% completed training log.**
- Applicant must resubmit an application each year to the FJH/FHS student's counselor. Packets are available from the counselor.

FRESHMAN BOYS ATHLETICS*

Grade: 9
Credit: 1
Prerequisite: None

This part of the Boys Athletic Program is limited to 9th grade male learners. Boys must go through tryouts each year in order to stay in athletics. Boys are expected to practice before or after school during the time their sport is in season. Learners will attend out of town and home games. Athletes who are not selected or are otherwise removed from athletics will get a schedule change. Learners will participate in an off season training program before or after the competitive season. No freshmen are allowed into 7th period athletics without coach's consent.

FRESHMAN GIRLS ATHLETICS*

Grade: 9
Credit: 1
Prerequisite: None

This part of the Girls Athletic Program is limited to 9th grade female learners. Girls must go through tryouts each year in order to stay in athletics. Girls may participate in football if they choose. Girls are expected to practice before or after school during the time their sport is in season. Learners will attend out of town and home games. Athletes who are not selected or are otherwise removed from athletics will get a schedule change. Learners will participate in an off season training program before or after the competitive season. No freshmen are allowed into 7th period athletics without coach's consent.

BOYS ATHLETICS*

Grade: 10 - 12
Credit: 1
Prerequisite: Tryouts

Boys with athletic interest and skill compete in Inter-Scholastic League competition with learners in the athletic programs at other high schools in our district. Boys are expected to practice before or after school during the time their sport is in season. Boys must go through tryouts each year in order to stay in athletics. Boys are involved in off-season programs when they are not competing in a sport. Athletes who are not selected or are otherwise removed from athletics will get a schedule change. Learners will participate in an off season training program before or after the competitive season.

GIRLS ATHLETICS*

Grade: 10 - 12
Credit: 1
Prerequisite: Tryouts

Girls with athletic interest and skill compete in Inter-Scholastic League competition with learners in the athletic programs at other high schools in our district. Girls are expected to practice before or after school during the time their sport is in season. Girls must go through tryouts each year in order to stay in athletics. Girls may participate in football if they choose. Girls are involved in an off-season program when they are not competing in a sport. Athletes who are not selected or are otherwise removed from athletics will get a schedule change.

BOYS ATHLETIC SPORTS OFFERED:

BASEBALL, BASKETBALL, CROSS COUNTRY, FOOTBALL, GOLF, LACROSSE, SOCCER, SWIMMING, TENNIS, TRACK, WATER POLO, AND WRESTLING

GIRLS ATHLETIC SPORTS OFFERED:

BASKETBALL, CHEER, CROSS COUNTRY, GOLF, LACROSSE, SOCCER, SOFTBALL, SWIMMING, TENNIS, TRACK, VOLLEYBALL, WATER POLO AND WRESTLNG

*Refer to grade level sheets for course numbers

NOTES:
1. Cross Country, Football and Track are the only non-cut sports
2. Lacrosse is offered as a club sport with NO athletic period

9010P DANCE (PE Credit)

Grade: 9 - 12
Credit: 1
Prerequisite: None

This course will give learners an opportunity to learn and practice basic dance movement and technique in several genres. Strengthening and limbering exercises will be used consistently, and learners will learn to choreograph dances as well. Performance opportunities will include Fall Demonstration and Spring Show.

9014P 9TH GRADE DRILL TRAINING (PE Credit)

Grade: 9 - 11
Credit: 1
Prerequisite: Audition

The Drill Training class is a prerequisite course for Drill Team. It is a year-long class, which serves as a training program for Drill Team. Stretches, high kick, and jazz dances will be taught throughout the year with a strong emphasis on technique. Participation in Drill Training does not guarantee placement in the Drill Team.

9350/9355 9TH GRADE CHEERLEADING
9360/9365 10TH GRADE CHEERLEADING
9366/9367 11TH GRADE CHEERLEADING
9370/9375 12TH GRADE CHEERLEADING

Grade: 9 – 12
Credit: 1
Prerequisite: Tryouts

The purpose of the cheerleaders is to support the curricular and extracurricular activities of FHS by promoting school spirit.

Cheerleaders and mascots exist to promote good sportsmanship, good citizenship, and wholesome and enthusiastic school spirit. Cheerleaders and mascots are first and foremost representatives and ambassadors of their school. Cheerleaders are expected to be skilled in learning and remembering cheers. They are also expected to be able to publicly demonstrate a skill level suitable for group performance. Members are chosen by a panel of judges on the basis of ability, scholarship, and devotion to school.

9075P DANCE WELLNESS (PE Credit)

Grade: 10 - 12
Credit: 1
Prerequisite: Performance Based Assessment: Athletics

Dance Wellness will target student athletes seeking more range of motion, flexibility, injury prevention, balance and coordination, and more training that will benefit their athletic bodies for a longer and healthier career. Students will participate in learning Ballet, Yoga, Pilates, and Modern Dance. Performance opportunities will include Fall Demonstration and Spring Show.

9017P ADVANCED DANCE (PE Credit)

Grade: 10 – 12
Credit: 1
Prerequisite: Dance, Audition, & Instructor Approval

This course is a continuation of the training one receives in Dance. This class is for serious dance learners who want to increase their skill and knowledge of the art. Activities will include more advanced technique in several genres and a more in-depth look at dance history. The elements of choreography will be reviewed and studies on a larger scale with more emphasis on improvisation, manipulation of movement, and overall composition. Performance opportunities will include Fall Demonstration and Spring Show.

9500/9510 9th ATHLETIC TRAINING
9530/9535 10th ATHLETIC TRAINING
9596/9597 11th ATHLETIC TRAINING
9598/9599 12th ATHLETIC TRAINING

Grade: 9 - 12
Credit: 1
Prerequisite: Application and Interview with staff athletic trainers

All individuals interested in being a student athletic trainer must fill out an application and be interviewed before being accepted into the Sports Medicine Program. Students must be enrolled in course to participate.

Athletic Training is a regular class period, but also an extra-curricular activity. The student athletic trainer assists the Head Athletic Trainer in the duties of injury prevention, first aid, treatment, and rehabilitation of the athlete. Learners interested in sports and/or the medical field might enjoy this course and should contact the Head Athletic Trainer for an application

Physical forms must be on file in the Athletic Training Office before a student is allowed to participate in any Athletics, Band or Drill Training/Drill Team.

FINE ARTS ELECTIVES

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Art I	7501	X	X	X	X	1	None
Art II	7502		X	X	X	1	Art I
Art III	7503			X	X	1	Art I, Art II
Art IV	7504				X	1	Art I, II, III &
AP 2D Art and Design	7515			X	X	1	Art 1 & Teacher Recommendation
AP 3D Art and Design	7530			X	X	1	Art I & Teacher Recommendation
AP Drawing	7520			X	X	1	Art I & Teacher Recommendation
Wind Ensemble	7000*	X	X	X	X	1	Audition
Symphonic Band	7028*	X	X	X	X	1	Audition
Concert Band I	7008*	X	X	X	X	1	Audition
Concert Band II	7018*	X	X	X	X	1	Audition
Concert Band III	7020*	X	X	X	X	1	Teacher Recommendation
Jazz Band	7060*	X	X	X	X	1	Audition
Marching Percussion	7078*	X	X	X	X	.5	Audition
Pit Percussion	7088*	X	X	X	X	.5	Audition
Junior Varsity Color Guard	7048*	X	X	X	X	1	Audition
Varsity Color Guard	7050*	X	X	X	X	1	Audition. Prior experience at FJH, FHS or another school
Varsity Women's Choir	7318*		X	X	X	1	Audition
Campus Singers	7330*		X	X	X	1	Audition
Treble Choir	7350*	X	X	X	X	1	Audition and/or Teacher Recommendation
Concert Men's Choir	7320*	X	X	X	X	1	Audition and/or Teacher Recommendation
Vocal Ensemble	7335*			X	X	1	Audition
Applied Music	7052			X	X	1	Membership in Campus Singers, Vocal Ensemble, Symphonic Band or Wind Ensemble
AP Music Theory	7340			X	X	1	Teacher Recommendation

*Refer to grade level sheets for course numbers

FINE ARTS ELECTIVES CONTINUED

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Dance	9010*	X	X	X	X	1	None
Drill Team I Drill Team II Drill Team III	Refer to course number sheet		X	X	X	1	Performance Based Assessment; Drill Training
Dance Wellness	9075*		X	X	X	1	Performance Based Assessment: Athletics
Advanced Dance	9017*		X	X	X	1	Dance, Audition, & Instructor Approval
Theater Arts I	7401	X	X	X	X	1	None
Theater Arts II	7402		X	X	X	1	Theater Arts I and audition
Theater Arts III	7418			X	X	1	Theater Arts I & II and audition
Theater Arts IV	7438				X	1	Theater Arts I, II & III
Technical Theater I	7440	X	X	X	X	1	Recommended: Theater Arts I
Technical Theater II Technical Theater III Technical Theater IV	7450 7460 7470		X	X	X	1	Tech Theater I or Teacher Recommendation
Theater Production I	7360	X	X	X	X	.5 - 1	By audition only
Theater Production II Theater Production III Theater Production IV	7358 7362 7364		X	X	X	1	Theater Arts I, audition & Teacher Recommendation
Floral Design	5175		X	X	X	1	None
Professional Communications	7220	X	X	X	X	.5	None
Dual Credit American Music	7345W			X	X	.5	Qualifying TSI reading score

FINE ARTS ELECTIVES

7501 ART I

Grade: 9-12
Credit: 1
Prerequisite: None

This entry level art course allows students to explore the Elements or Art while applying the Principles of Art/Design to develop and create original artworks/compositions using a variety of media such as pencil, pen, ebony pencils, pastels, oil pastels, colored pencils and water colors. Students will analyze, interpret, and evaluate their own artwork as well as those of well-known artists comparing the different styles and techniques used throughout the various periods of art history. Project emphasize developing a sense of composition and drawing skills. A sketchbook is required periodically that reinforces these skills. Art history is included as it relates to specific art projects. In the fall learners have the option to participate in Houston Livestock Show and Rodeo competition, other competitions may be available.

7502 ART II

Grade: 10-12
Credit: 1
Prerequisite: Art 1
Selected assignments are given that apply toward AP Studio Art, AP Drawing and portfolios for college acceptance.

This course is designed as an extension of Art 1. Students will continue to use the Elements of Art and the Principles of Design to create original compositions. The learners are exposed to Art History from the Renaissance to Contemporary Art with emphasis on selected artists. Assignments relate to drawing from real life objects and human figures, 3D work, sculpture and painting with a variety of media. The Elements of Art and the Principles of Design are implemented. A journal is submitted. All learners will participate in the Houston Livestock Show and Rodeo Art Competition in the fall. (Other competitions may be available) This class is for learners who were successful in Art 1.

7503 ART III

Grade: 11-12
Credit: 1
Prerequisite: Art I, Art II

Selected assignments are given that apply toward AP Studio Art, AP Drawing and portfolios for college acceptance.
Learners are involved in research concerning possible careers in art and a study of art in terms of how it reflects the times in which it was produced. Selected assignments are given and at times the student has a choice of media, subject matter and technique. Assignments relate to graphics, commercial art, figure drawing, art history, and higher level thinking. The Elements of Art and the Principles of Design are implemented. A journal and class critiques are required. All learners will participate in the Houston Livestock Show and Rodeo Art Competition in the fall. Learners should be seriously thinking of Art as a career choice at this level.

7504 ART IV

Grade: 12
Credit: 1
Prerequisite: Art I, II, III

Learners are involved in serious art choices concerning artistic careers. Selected assignments are given that apply toward AP Studio Art, AP Drawing and portfolios for college acceptance. Assignments relate to drawing from real life: figure drawing, portraits and still life, imaginative subject matter, print making, mixed media, painting and sculpture. A journal and class critiques are required. Contemporary Art is studied and emphasized. All learners will participate in the Houston Livestock Show and Rodeo Art Competition. Self directed art projects are encouraged. Learners are exposed to presentations given by representatives from some of the top U.S. art institutions. Leaners need a signature approval to enroll in the class.

AP ART PORTFOLIOS

The Advanced Placement Art Program makes it possible for highly motivated high school learners to do college-level work. The student is asked to submit a portfolio of work for evaluation at the end of the school year. AP art candidates prepare their portfolios through organized AP instruction. Portfolios must be submitted to your art teacher at the beginning of May. With 50 minute classes it is IMPERATIVE that the student have outside of school time to complete any portfolios. All students are required to participate in the Houston Livestock Show and Rodeo Art/Photography Competition.

The 3 different portfolios include: AP 2D Art and Design, AP 3D Art and Design, AP Art Drawing, . An interview process, summer assignments, and attendance at AP Student/parent meeting.
Add/Drops only occur at the semester.

7515 AP 2D ART AND DESIGN

Grade: 11 - 12
Credit: 1
Prerequisite: Art I & teacher recommendation

2D Design involves purposeful decision-making about how to use the elements and principles of art in an integrative way. Students will expand their two-dimensional design skills and advance their visual communication skills by exploring a variety of design processes and techniques, and compositional and aesthetic concepts. Students will produce a a portfolio that includes a minimum of 15 pieces from a sustained investigation, and physical works that will be submitted to the College Board.

7530 AP 3D ART AND DESIGN

Grade: 11 - 12
Credit: 1
Prerequisite: Art I & teacher recommendation

The 3-D Portfolio is intended to address a broad interpretation of sculptural issues in depth and space. These may include mass, volume, form, plane, light and texture. Such elements and concepts may be articulated through additive, subtractive, and/or fabrication processes. Students will expand their three-dimensional design skills and advance their visual communication skills by exploring a variety of design processes and techniques, and compositional and aesthetic concerns. Students will produce a a portfolio that includes a minimum of 15 pieces from a sustained investigation, and physical works that will be submitted to the College Board.

7520 AP DRAWING

Grade: 11 - 12
Credit: 1
Prerequisite: Art I & teacher recommendation

The Drawing Portfolio is designed to address a broad interpretation of drawing issues. Students will expand their drawing and two-dimensional design skills and advance their visual communication skills by exploring a variety of design processes and techniques, and compositional and aesthetic concepts. Students will produce a a portfolio that includes a minimum of 15 pieces from a sustained investigation, and physical works that will be submitted to the College Board.

70001 9 WIND ENSEMBLE
70002 10 WIND ENSEMBLE
70003 11 WIND ENSEMBLE
70004 12 WIND ENSEMBLE

Grade: 9 - 12
Credit: 1 Prerequisite: Audition

The Wind Ensemble is the first ranked band. The band attends all UIL music competitions. Each member will prepare for participation in all TMEA honor groups. The band rehearses during the regular school day and each member is required to attend a section rehearsal, full band rehearsal and a fifteen-minute individual listening every week outside of the school day. Other rehearsals and clinics as scheduled are required. Attendance at all rehearsals and performances is mandatory. Membership by audition only. Everyone in Wind Ensemble is part of the marching band. (Waives .5 PE Credit upon completion of fall marching band require- ments)

70081 9 CONCERT BAND I
70082 10 CONCERT BAND I
70083 11 CONCERT BAND I
70084 12 CONCERT BAND I

Grade: 9 - 12
Credit: 1
Prerequisite: Audition

The Concert Band is the third ranked band. The band attends all UIL music competitions. Each member is encouraged to prepare for and participate in TMEA honor groups. The band rehearses during the regular school day and each member is required to attend a section rehearsal and fifteen-minute individual listening each week outside of the school day. Other rehearsals and clinics as scheduled are required. Attendance at all rehearsals and performances is mandatory. Membership by audition only. Everyone in Concert Band I is part of the marching band. (Waives .5 PE Credit upon completion of fall marching band requirements)

70181 9 CONCERT BAND II
70182 10 CONCERT BAND II
70183 11 CONCERT BAND II
70184 12 CONCERT BAND II

Grade: 9 - 12
Credit: 1
Prerequisite: Audition

The Concert Band II is the fourth ranked band. The band, depending on enrollment and instrumentation, will participate in school concerts. The group rehearses during the regular band period. Extra rehearsals and clinics will be scheduled as needed. Attendance at all rehearsals and performances is mandatory. Membership by audition only. Everyone in Concert Band II is part of the marching band. (Waives .5 PE Credit if there is participation in marching band)

70201 9 CONCERT BAND III
70202 10 CONCERT BAND III
70203 11 CONCERT BAND III
70204 12 CONCERT BAND III

Grade: 9 - 12
Credit: 1
Prerequisite: Audition and teacher recommendation

The Concert Band III is the fifth ranked band. The band, depending on enrollment and instrumentation, will participate in school concerts. The group rehearses during the regular band period. Extra rehearsals and clinics will be scheduled as needed. Attendance at all rehearsals and performances is mandatory. Membership is audition only. Everyone in Concert Band III is part of the marching band. (Waives .5 PE Credit if there is participation in marching band)

70281 9 SYMPHONIC BAND
70282 10 SYMPHONIC BAND
70283 11 SYMPHONIC BAND
70284 12 SYMPHONIC BAND

Grade: 9 - 12
Credit: 1 Prerequisite: Audition

The Symphonic Band is the second ranked band. The band attends all UIL music competitions. Each member will prepare for participation in TMEA honor groups. The band rehearses during the regular school day and each member is required to attend a section rehearsal and fifteen-minute individual listening each week outside of the school day. Other rehearsals and clinics scheduled are required. Attendance at all rehearsals and performances is mandatory. Membership by audition only. Everyone in Symphonic Band is part of the marching band. (Waives .5 PE Credit upon completion of fall marching band requirements)

70601 9 JAZZ BAND
70602 10 JAZZ BAND
70603 11 JAZZ BAND
70604 12 JAZZ BAND

Grade: 9 -12
Credit: 1
Prerequisite: Audition/or teacher recommendation

The Jazz Band program is open to any interested student who is currently enrolled in the band program or non-band students who play electric bass, electric guitar or piano. Students that play trumpet, saxophone or trombone, must be concurrently enrolled in band. Interested learners must have auditioned and have instructor approval before enrolling in the course. The audition consists of music excerpts, etudes and/or scales as determined by the instructor. Jazz band is a two semester course therefore learners should enroll for the entire year. Special emphasis is placed on the performance of swing, Latin, funk, jazz-rock, and blues. Specific topics and elements to be discussed include: style, form, balance, expression, improvisational skills and concert etiquette. Because Jazz Band is a course within the performing arts, some non-class time activities include performance for community programs, contests, concerts and festivals. Enrollment in the course constitutes agreement to fulfill all curricular, co-curricular, and extra-curricular requirements.

70781 9 MARCHING PERCUSSION
70782 10 MARCHING PERCUSSION
70783 11 MARCHING PERCUSSION
70784 12 MARCHING PERCUSSION

Grade: 9 -12
Credit: .5
Prerequisite: Audition

A percussion course which will provide marching percussion techniques, exercises, and ensemble work for snare drum, quads, bass drum and cymbals. Learners who enroll for this class will study and practice the elements of marching. Enrollment for this class is mandatory to participate in marching band. Attendance at all rehearsals and performances is required. This is a Fall only class. Before the Spring semester, auditions will then be held to have the percussion learners placed into a specific band period. Membership by audition only. (Waives .5 PE Credit upon completion of fall marching band requirements)

70881 9 PIT PERCUSSION
70882 10 PIT PERCUSSION
70883 11 PIT PERCUSSION
70884 12 PIT PERCUSSION

Grade: 9-12
Credit: .5
Prerequisite: Audition

A percussion course which will provide pit percussion techniques, exercises, and ensemble work. Learners who enroll for this class will study and practice the elements of pit percussion. Enrollment for this class is mandatory to participate in marching band. Attendance at all rehearsals and performances is required. This is a fall only class. Before the Spring semester, auditions will be held to have the learners placed into a specific band period. Membership by audition only. (Waives .5 PE Credit upon completion of fall marching band requirements)

70481 9 JUNIOR VARSITY COLOR GUARD 70483 11 JUNIOR VARSITY COLOR GUARD
70482 10 JUNIOR VARSITY COLOR GUARD 70484 12 JUNIOR VARSITY COLOR GUARD

Grade: 9 - 12
Credit: 1
Prerequisite: Audition

The Color Guard is comprised of those learners interested in work with flag, rifle, saber and related equipment. The Color Guard participates in all marching band rehearsals and performances in the fall. The Color Guard participates in the Texas Color Guard Circuit. Attendance at all rehearsals and performances outside of school are mandatory both in the fall and spring semesters. (Waives .5 PE credit for successful completion of the fall marching band requirements and waives .5 Fine Art credit for successful completion of the spring winter guard requirements) Audition required for membership only.

70501 9 VARSITY COLOR GUARD 70503 11 VARSITY COLOR GUARD
70502 10 VARSITY COLOR GUARD 70504 12 VARSITY COLOR GUARD

Grade: 9 - 12
Credit: 1
Prerequisite: Audition. Prior experience either at FJH, FHS or another school.

The Varsity Guard is the top ranked color guard. Members are trained in advanced flag, rifle, saber and dance. This class participates in all marching band rehearsals and performances in the fall. They are required to compete in the WGI competitions. Attendance at all rehearsals and performances outside the school day are mandatory both in the fall and spring semesters. (Waives .5 PE credit for successful completion of the fall marching band requirements and waives .5 Fine Arts credit for successful completion of the spring winter guard requirements.)

73501 9 TREBLE CHOIR 73503 11 TREBLE CHOIR
73502 10 TREBLE CHOIR 73504 12 TREBLE CHOIR

Grade: 9-12
Credit: 1
Prerequisite: Audition and/or teacher recommendation

This choir is open to girls new to high school choir. Students will learn concepts of vocal and choral technique, music theory, sight-reading, music history, and will be provided opportunities for creative self-expression through performance of a wide variety of choral literature. Singers in this group will participate in University Interscholastic League concert and sight-reading contests. Learners are encouraged to participate in solo and ensemble contests, and TMEA District and Region Choir auditions. The choir will give concerts during the year, and learners must participate in all performances whether competitive or entertainment.

73201 9 CONCERT MEN'S CHOIR 73203 11 CONCERT MEN'S CHOIR
73202 10 CONCERT MEN'S CHOIR 73204 12 CONCERT MEN'S CHOIR

Grade: 9 - 12
Credit: 1
Prerequisite: Audition and/or teacher recommendation

This choir is open to all boys, grades 9 - 12. Students will learn concepts of vocal and choral technique, music theory, sight-reading, music history, and will be provided opportunities for creative self-expression through performance of a wide variety of choral literature. Students in this group are encouraged to participate in University Interscholastic League concert and sight-reading contests. Learners are encouraged to participate in solo and ensemble contests, and TMEA District and Region Choir auditions. The choir will give concerts during the year, and learners must participate in all performances whether competitive or entertainment.

73182 10 VARSITY WOMEN'S CHOIR
73183 11 VARSITY WOMEN'S CHOIR
73184 12 VARSITY WOMEN'S CHOIR

Grade: 10 - 12
Credit: 1
Prerequisite: Audition

This choir is selected from open auditions, through sight-reading and solo singing ability. Students will learn concepts of vocal and choral technique, music theory, sight-reading, music history and will be provided opportunities for creative self-expression through performance of a wide variety of choral literature. Singers in this group must participate in University Interscholastic League concerts and sight reading contests. Learners are encouraged to participate in solo and ensemble contests, and TMEA District and Region Choir auditions. The choir will give concerts during the year, and learners must participate in all performances whether competitive or entertainment.

73302 10 CAMPUS SINGERS
73303 11 CAMPUS SINGERS
73304 12 CAMPUS SINGERS

Grade: 10 - 12
Credit: 1
Prerequisite: Audition

This choir is selected from auditions of students currently enrolled in choir, through sight-reading and solo singing ability. Singers will learn concepts of vocal and choral technique, music theory, sight-reading, music history, and will be provided opportunities for creative self-expression through performance of a wide variety of choral literature. Students in this group will participate in University Interscholastic League concert and sight-reading contests. Learners are encouraged to participate in solo and ensemble contests, and TMEA District and Region Choir auditions. The choir will give concerts during the year, and learners must participate in all performances whether competitive or entertainment.

73352 10 VOCAL ENSEMBLE
73353 11 VOCAL ENSEMBLE
73354 12 VOCAL ENSEMBLE

Grade: 11 - 12
Credit: 1
Prerequisite: Audition; prior membership in Campus Singers

This choir is selected from auditions of students currently enrolled in Choir through sight-reading and solo singing ability. Singers will learn concepts of vocal and choral technique, music theory, sight reading, music history, and will be provided opportunities for creative self-expression through performance of a wide variety of choral literature. Students in this group will participate in University Interscholastic League concert and sight-reading contests. Learners are encouraged to participate in solo and ensemble contests, and TMEA District and region Choir auditions. The choir will give concerts during the year, and learners must participate in all performances whether competitive or entertainment.

70523 11 APPLIED MUSIC I
70524 12 APPLIED MUSIC I

Grade: 11-12
Credit: 1
Prerequisite: Membership in Campus Singers, Vocal Ensemble, Symphonic Band, or Wind Ensemble

The Applied Music I course allows students in grades 11-12 to advance their development of proficiency in vocal, wind or percussion performance. The course addresses the specific needs of each student and provides individualized instruction through challenging literature for study and performance. The course is based upon the Fine Arts Texas Essential Knowledge and Skills (TEKS) in Music, Level I.. Students may satisfy fine arts and/or elective requirements for high school graduation by successfully completing the Applied Music I course. Exceptions can be made on a case-by-case basis, with teacher approval.

7340 AP MUSIC THEORY

Grade: 11-12
Credit: 1
Prerequisite: Teacher Recommendation

The ultimate goal of this course is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. To achieve this goal, students will complete listening, performance, written, creative, and analytical exercises both in class and at home. Like most first-year college music theory courses, this course will emphasize aural and visual components of the common practice period (1600-1900): four-voice texture, cadences, melodic and harmonic compositional technique, standard rhythms and meters, phrase structure, small forms and modulation. Students will use a college textbook and workbook and will have the opportunity to take the Advanced Placement Music Theory exam for college credit.

7220 PROFESSIONAL COMMUNICATIONS (SPEECH)

Grade: 9 - 12
Credit: .5
Prerequisite: None

This course will blend together oral, written and graphic communication. Units will cover public speaking experienced through individual and group presentations. Learners will be expected to develop and expand their ability to write, read, edit, speak, listen, apply software applications, manipulate computer graphics and conduct internet research. Additional units will emphasize interpersonal communication skills including effective listening, conflict resolution and professional and social communication. Professional Communications is a local requirement, which counts as a state elective.

90101 9TH GRADE DANCE
90102 10TH GRADE DANCE
90103 11TH GRADE DANCE
90104 12TH GRADE DANCE

Grade: 9 - 12
Credit: 1
Prerequisite: None

This course will give learners an opportunity to learn and practice basic dance movement and technique in a variety of genres. Technical exercises will be used consistently, and learners will choreograph dances as well. Performance opportunities will include Fall Demonstration and Spring Show.

9014P 9TH GRADE DRILL TRAINING
90142 10TH GRADE DRILL TRAINING
90143 11TH GRADE DRILL TRAINING
90144 12TH GRADE DRILL TRAINING

Grade: 9 - 11
Credit: 1
Prerequisite: Audition

The Drill Training class is a prerequisite course for Drill Team. It is a year-long class, which serves as a training program for Drill Team. Stretching, high kick and jazz dances will be taught throughout the year with a strong emphasis on technique. Participation in Drill Training does not guarantee placement in the Drill Team. Performance opportunities include home JV football games, Wranglerette Pre-Game Dinner, Fall Demonstration and Spring Show.

DRILL TEAM I (1ST YEAR) 10TH GRADE - 90182, 11TH GRADE - 90183, 12TH GRADE - 90184
DRILL TEAM II (2ND YEAR) 11TH GRADE - 90503, 12TH GRADE - 90504
DRILL TEAM III (3RD YEAR) 12TH GRADE - 90704

Grade: 10 - 12
Credit: 1
Prerequisite: Performance Based Assessment; Drill Training

The Wranglerette Drill Team is composed of 10th, 11th, and 12th grade girls. It functions as a precision dance group, performing at football and basketball half times, pep rallies, contests, spring show and as a school spirit booster. Girls are chosen for the drill team by the director and a panel of judges on the basis of dance ability, scholarship, and devotion to school.

90752 10th GRADE DANCE WELLNESS
90753 11TH GRADE DANCE WELLNESS
90754 12TH GRADE DANCE WELLNESS

Grade: 10 - 12
Credit: 1
Prerequisite: Performance Based Assessment: Athletics

Dance Wellness will target student athletes seeking more range of motion, flexibility, injury prevention, balance and coordination, and more training that will benefit their athletic bodies for a longer and healthier career. Students will participate in learning Ballet, Yoga, Pilates, and Modern Dance. Performance opportunities will include Fall Demonstration and Spring Show.

90172 10TH ADVANCED DANCE
90173 11TH ADVANCED DANCE
90174 12TH ADVANCED DANCE

Grade: 10 – 12
Credit: 1
Prerequisite: Dance, Audition, & Instructor Approval

This course is a continuation of the training one receives in Dance. This class is for serious dance learners who want to increase their skill and knowledge of the art. Activities will include more advanced technique in several genres and a more in-depth look at dance history. The elements of choreography will be reviewed and studies on a larger scale with more emphasis on improvisation, manipulation of movement, and overall composition. Performance opportunities will include Fall Demonstration and Spring Show.

7401 THEATER ARTS I

Grade: 9 - 12
Credit: 1
Prerequisite: None

Theater Arts I is offered to learners who are new to high school theatre and who want to learn basic theatrical skills. This is a survey course with an emphasis on acting and theatre heritage. Theater Arts I learners will study the cultural contribution of theater, its structure, the play, and its performance.

7402 THEATER ARTS II

Grade: 10- 12
Credit: 1
Prerequisite: Theater Arts I and Audition

Theater Arts II is offered to learners who want to further their theatrical skills through work in acting, directing, and theater heritage. Basic principles of production are studied and applied through performances in various theatrical applications. Production work required. Enrollment in the course constitutes agreement to fulfill all curricular, co-curricular, and extra-curricular requirements.

7418 THEATER ARTS III

Grade: 11 - 12
Credit: 1
Prerequisite: Theater Arts I, Theater Arts II and Audition

Theater Arts III learners will continue the study of theater with greater emphasis, on the historical evolution and cultural contributions of Theater, production styles, and performance. Learners study basis components of production and apply them through performance. Production work required. Enrollment in the course constitutes agreement to fulfill all curricular, co-curricular, and extra-curricular requirements.

7438 THEATER ARTS IV

Grade: 11 - 12
Credit: 1
Prerequisite: Theater Arts I, Theater Arts II, Theater Arts III and Audition

Theater Arts IV learners will do advanced work in acting, directing, and set design, and will continue the study of theater with greater emphasis on the historical evolution and cultural contributions of theater, production styles, and performance. Learners study basic components of production, and apply them through performance. Production work required. Enrollment in the course constitutes agreement to fulfill all curricular, co-curricular, and extra-curricular requirements.

7440 TECHNICAL THEATER I

Grade: 9 - 12
Credit: 1
Prerequisite: Recommended: Theatre Arts I

Technical Theater I is a course designed to provide learners with a basic understanding of the aesthetics and practical application of all phases of technical production. This would include the study of all visual aesthetics, the physical theater, scenic design, scenery construction and painting, property construction and design, costuming, lighting, sound engineering, and back stage organization. Production work required. Enrollment in the course constitutes agreement to fulfill all curricular, co-curricular, and extra-curricular requirements.

7450 TECHNICAL THEATER II
7460 TECHNICAL THEATER III
7470 TECHNICAL THEATER IV

Grade: 10 - 12
Credit: 1
Prerequisite: Tech Theater I or Teacher Recommendation

Will do advanced work in all phases of theatrical production. This includes advanced study of all visual aesthetics including the physical theatre, scenic design & construction, properties, costumes, lighting, sound engineering and back stage organization. Production work required for UIL Design Contest (not OAP). Enrollment in the course constitutes agreement to fulfill all curricular and extracurricular requirements.

7360 THEATER PRODUCTION I

Grade: 9 - 12
Credit: .5 - 1
Prerequisite: By audition only

This course focuses on all aspects of theatrical production: acting concepts and skills, production concepts and skills, and aesthetic growth through appreciation of theatrical events being involved in the High School musical. Students will share the theater experience by working in the various areas associated with this course by the instructor. NOTE: Once a student is selected for the Theater Production class by audition only, they will receive credit through 80 hours (1/2 unit) to 160 hours (1 unit) of involvement in production activities and theatrical experiences that cover all required TEKS for this course. All work must be completed during the academic year and this is an after school class. (If the student has already obtained their Fine Arts credit prior to participating in the Musical or is taking it simultaneously while in the Musical that student may select the number grade or pass/fail for this class if; the student has completed all the requirements for Theater Production and makes an A in the class. Once the choice has been made and the grade is entered the student may not change this grade per TEA guidelines.)

7358 THEATER PRODUCTION II
7362 THEATER PRODUCTION III
7364 THEATER PRODUCTION IV

Grade: 10 - 12
Credit: 1
Prerequisite: Theater Arts I, audition & teacher recommendation

Theater Production provides practical hands-on experiences in acting and stagecraft through the preparation and public performances of plays. This curricular laboratory for the exploration, development, and synthesis of all elements of theater supplements the other theater courses that concentrate on theories, information, and techniques by providing for the integration and implementation of these ideas and skills. Production work required. Enrollment in the course constitutes agreement to fulfill all curricular and extracurricular requirements.

5175 FLORAL DESIGN

Grades: 10-12
Credit: 1
This course may count as a fine arts credit
Prerequisite: None

This course prepares students for careers in floral art and design. It is a laboratory-oriented course designed to provide students technical knowledge and skills related to horticultural systems, career opportunities, entry requirements, and industry expectations. This course is designed to develop students' ability to identify and demonstrate the principles and the techniques related to floral design as well as develop an understanding of the management of floral enterprises.

7345W DUAL CREDIT AMERICAN MUSIC (COLLEGE CREDIT)

Grades: 11 - 12
Credit: .5
This course may count as a fine arts credit
Prerequisite: Qualifying TSI Reading Score

This course will give students a general survey of the principal styles, forms, composers and their works of American Music including blues, ragtime, jazz and contemporary art music. Out of class listening required.

College of the Mainland equivalent courses: Music 1310.
Learners will be responsible for registration with College of the Mainland and any additional book fees.

OTHER ELECTIVES

COURSE NAME	COURSE NUMBER	GRADE PLACEMENT 9	10	11	12	UNIT CREDIT	PREREQUISITE
Teen Leadership	**0300**	**X**	**X**	**X**	**X**	**.5**	**None**
SAT Review (Counts as local credit)	**0149**		**X**	**X**	**X**	**.5**	**Geometry and Algebra II**
AD ISM I (Academic Decathlon) (Counts as AP course for grade points earned)	**0055**		**X**			**1**	**Sponsor Signature**
AD ISM II (Academic Decathlon) (Counts as AP course for grade points earned)	**0056**			**X**		**1**	**Sponsor Signature**
AD ISM III (Academic Decathlon) (Counts as AP course for grade points earned)	**0057**				**X**	**1**	**Sponsor Signature**
Peer Assistance and Leadership (PALS)	**0050**				**X**	**1**	**Application & review by committee**
Senior Mentorship (Counts as local credit)	**0011**				**X**	**.5 - 1**	**Seniors only, Application**
Teacher Aide (Counts as local credit)	**013SM1 013SM2**				**X**	**.5 - 1**	**Seniors only, Application**
Project Based Research (Zero-hour course that counts as MAP course for grade points earned)	**0100**	**X**				**1**	**Concurrent enrollment in MAP Biology**
Independent Study/ Mentorship I (Zero-hour course that counts as AP course for grade points earned)	**0030 ISM I**		**X**			**1**	**Biology, Concurrent enrollment in MAP Chemistry**
Independent Study/ Mentorship (Counts as AP course for grade points earned)	**0035 ISM II 0038 ISM III**			**X**	**X**	**1**	**Biology & Application**

***Seniors - If you select off campus, you must provide own transportation home.**

OTHER ELECTIVES

0300 TEEN LEADERSHIP

Grade: 9 - 12
Credit: .5
Prerequisite: None

This is a program which learners develop leadership, professional, and business skills. They learn to develop healthy self concepts, healthy relationships, and learn to understand the concept of personal responsibility. Learners also develop an understanding of Emotional Intelligence and its measured skills, skills in public speaking, an understanding of principle-based decision making, effects of peer pressure, skills to counteract bad effects, problem-solving skills, an understanding of parenting, and skills to be better family members and citizens.

0149 SAT REVIEW

Grade: 10 – 12
Credit: .5 (Local)
Prerequisite: Geometry and Algebra II

Emphasis will be placed on vocabulary, analogies, critical reading and test taking techniques. Learners will gain information about the content of the SAT mathematical questions, practice sample math questions, and learn when and how to use the calculator.

0055 AD ISM I (Academic Decathlon)
0056 AD ISM II (Academic Decathlon)
0057 AD ISM III (Academic Decathlon)

Grade: 10 - 12
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Sponsor Signature

Academic Decathlon involves research of ten academic areas including economics, history, language and literature, science, fine arts, and others. A team of 3 A, 3 B and 3 C average learners will be selected to compete in the Academic Decathlon competition during the spring semester. Region and state contests are held for schools categorized as large, medium and small. Based on a point system, the highest scoring team represents Texas at the national USAD competition. All members of the winning team receive scholarships. Texas provides $150,000 in scholarship money each year. Overall individual winners also win scholarships. Registration fees and the Texas Education Agency contribute to this scholarship fund.

0050 PEER ASSISTANCE and LEADERSHIP (PALS)

Grade: 12 – Selection by Committee Only
Credit: 1 – (State)
Prerequisite: Application and review by committee

The PAL/Peer Helping course is a peer helping program in which selected high school learners will be trained to work as peer facilitators with other learners on their own campus, and/or from feeder middle and elementary schools. Likewise, the PAL/Peer Helping course is intended to provide a field experience for young people who are interested in careers in education and/or related helping professions. Participants will be trained in a variety of helping skills, which will enable them to assist other learners in having a more positive and productive school experience. Positive peer influence will be utilized as a central strategy for addressing such issues as at-risk youth, drop out prevention, substance abuse prevention, teen pregnancy, suicide, absenteeism, low achievements, behavior problems, learners with special needs, and other areas of concern in the school district. Enrollment in the course constitutes agreement to fulfill all curricula, co-curricular, and extra-curricular requirements.

0011 SENIOR MENTORSHIP

Grade: 12
Credit: .5 – 1 (Local)
Prerequisite: Seniors Only, Application

The student will serve as a mentor or tutor in a course. A mentor is assigned to a course where he/she has displayed a particular strength; based on an application process and teacher/department approval. This position requires that students display exceptional levels of responsibility, dependability and respect. Students may be assigned to a specific teacher or a department; assignments are set in the fall. Requirements for participation in community service outside of the assigned class/office will apply. No grade points. A student can earn only one (1) credit of senior mentor.

013SM1 TEACHER AIDE (FALL SEMESTER)
013SM2 TEACHER AIDE (SPRING SEMESTER)

Grade: 12
Credit: .5 – 1 (Local)
Prerequisite: Seniors Only

Students serving as teacher aides will work collaboratively with professional campus staff. This position requires that students display exceptional levels of responsibility, dependability and respect. Students may be assigned to a specific teacher or a department; assignments are set in the fall. Requirements for participation in community service outside of the assigned class/office will apply. No grade points. A student can earn only one (1) credit of teacher aide.

0100 PROJECT BASED RESEARCH (Freshman)

Grade: 9
Credit: 1 (Counts as MAP course for grade points earned)
Prerequisite: Concurrent enrollment in MAP Biology

Zero hour course outside of regular school day.

This Project-Based Research course allows academically advanced freshman students an opportunity to conduct science fair research investigations through an independent study format. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. Students in this course develop, research, and conduct a science fair project under the guidance of a teacher facilitator and a professional in the field of research. This course is designed to support students through the science fair process.

0030 INDEPENDENT STUDY/MENTORSHIP I

Grade: 10
Credit: 1 (Counts as AP course for grade points earned)
Prerequisite: Biology; concurrent enrollment in MAP Chemistry

Zero hour course outside of regular school day.

This Independent Study Mentorship (ISM) is designed for self-motivated learners with a desire to develop their Independent Science Fair Research Project at a higher level. All Science Fair ISM learners will research, design, and present an Independent Science Fair Project in conjunction with their MAP Chemistry course. The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals.

General information:

- Facilitator: Only available to MAP Chemistry learners during zero hour
- Learners meet with the facilitator in a pre-scheduled one on one meeting for 25 minutes once every 2 weeks. Other 45 minute mandatory meetings (general instructions, science fair process, research techniques, etc) are scheduled throughout the year.
- Learners are required to log 140 hours (outside of MAP Chemistry class time) as they develop and complete a senior level science fair project under the guidance of a mentor
- Learners will analyze quantitative data using higher level statistics.
- Grade carries AP points for class rank determination
- A full listing of ISM requirements and time schedules will be given to MAP Chemistry learners the first week of school and a parent meeting will be scheduled to discuss the details
- This course may count as a science credit

0035 INDEPENDENT STUDY/MENTORSHIP II
0038 INDEPENDENT STUDY/MENTORSHIP III

Grade: 11-12
Credit: 1 (Counts for AP course for grade points earned)
Prerequisite: Biology and Chemistry

Seniors may not enroll in ISM as their 4th year science credit

This Scientific Research and Design course known as ISM allows academically advanced junior, and senior learners an opportunity to conduct career and science research investigations through an independent study mentorship. Students conduct empirical research under the guidance of a teacher, facilitator and mentor. Learners must be self-motivated and have transportation to visit off-campus mentors.

AGRICULTURE, FOOD, AND NATURAL RESOURCES

- AGRIBUSINESS
- ANIMAL SCIENCE
- ENVIRONMENTAL AND NATURAL RESOURCES
- PLANT SCIENCE

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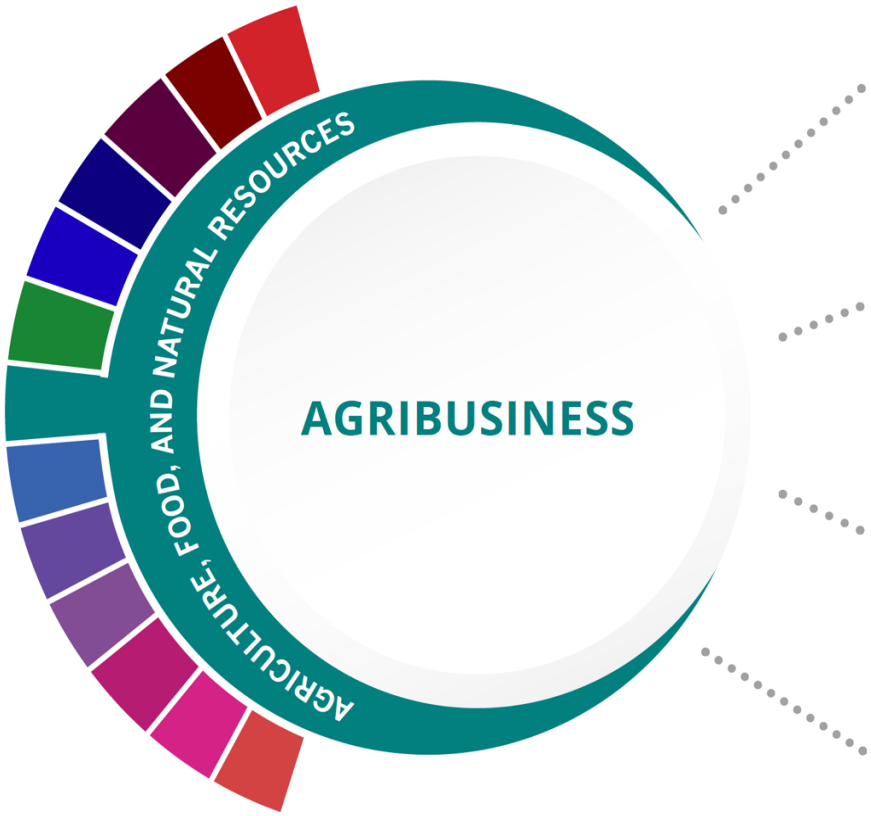


Level 1	Principles of Agriculture, Food, and Natural Resources
Level 2	Professional Communications
Level 3	Agribusiness Management and Marketing
Level 4	Practicum in Agriculture, Food, and Natural Resources Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	Certified Professional Public Buyer	Agricultural Business and Management, General	Agricultural Business and Management, General	Agricultural Business and Management, General
		Banking and Financial Support Services	Finance, General	Finance, General
		Advertising	Financial Mathematics	Financial Mathematics
		Marketing/ Marketing Management, General	Marketing/ Marketing Management, General	Marketing/ Marketing Management, General

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Farmers, Ranchers, and Other Agricultural Managers	$59,134	405	9%
Farm and Ranch Loan Officers	$45,594	268	25%
Buyers and Purchasing Agents, Farm Products	$46,488	102	20%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Tour a farm machinery products company Texas FFA	Internship with a farm machinery products company; Work on a farm or ranch FFA Supervised Agriculture Experience (SAE)

The Agribusiness program of study explores the occupations and educational opportunities associated with the business of farming and agriculturally related business that supplies farm inputs, such as machinery and seeds. This program of study may also include exploration into the marketing of farm products, the purchase of farm products either for further processing or resale and grading or classifying unprocessed food or other agricultural products.

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life—food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

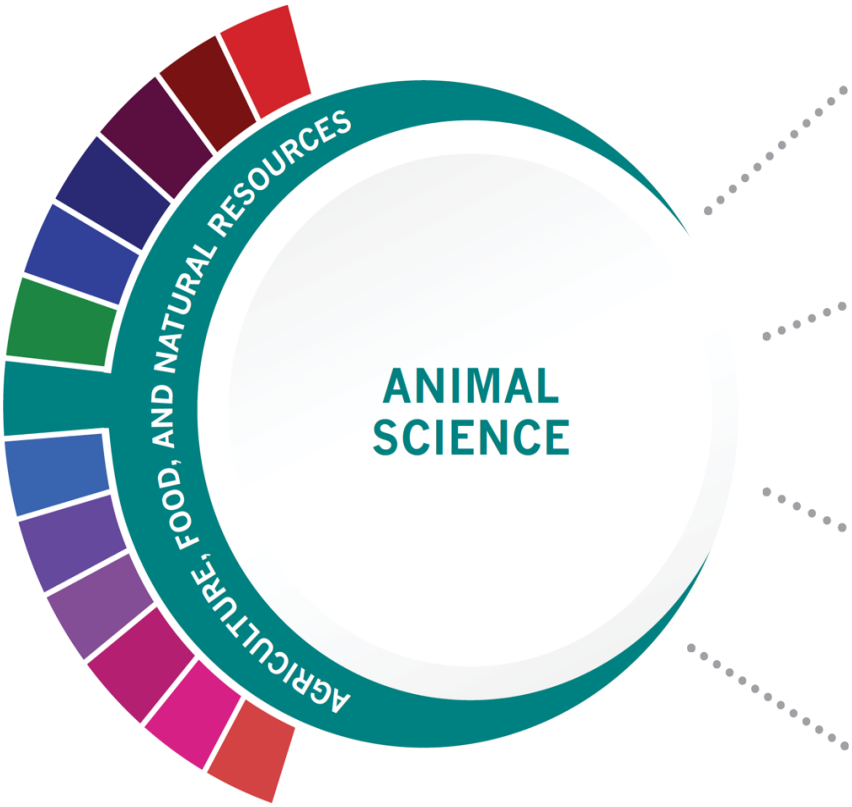
Successful completion of the Agribusiness program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5100 Principles of Agriculture, Food, and Natural Resources	13000200 (1 credit)	None	9-12
7220 Professional Communications	13009900 (.5 credit)	None	9-12
5101 Agribusiness Management and Marketing	13000900 (1 credit)	Recommended PREQ: Principles of Ag or Principles of Business	10-12
5130 Practicum in Agriculture, Food, and Natural Resources	13002510 (2 credits)	PREQ: Agribusiness Management and Marketing	11-12
5090 Career Preparation I 5091 Career Prep I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12

AGRICULTURE, FOOD, AND NATURAL RESOURCE CAREER CLUSTER
AGRIBUSINESS



Level 1	Principles of Agriculture, Food, and Natural Resources
Level 2	Small Animal Management Equine Science
Level 3	Livestock Production Veterinary Medical Applications
Level 4	Advanced Animal Science Practicum in Agriculture, Food, and Natural Resources – Cert Vet Asst. Project-Based Research ISM - Scientific Research and Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Licensed Veterinary Technician	Pet Groomer	Food Science and Technology	Animal Sciences	Genetics
Feed yard Technician in Cattle Care and Handling	Veterinary Technician	Veterinary Studies	Agriculture	Veterinary Medicine
FHS - Certified Veterinary Assistant	Licensed Breeder	Biotechnology Laboratory Technician	Biology	Biological and Physical Sciences
		Biology Technician	Zoology/ Animal Biology	Biological and Biomedical Sciences

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Animal Breeders	$39,135	28	9%
Animal Scientists	$57,533	22	12%
Medical Scientists	$63,898	435	27%
Veterinarians	$93,496	294	24%
Zoologists and Wildlife Biologists	$67,309	45	32%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Texas FFA	Agri-Science Fair 4H Volunteer at a local farm or veterinary office FFA Supervised Agriculture Experience (SAE)

The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches CTE learners how to apply biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students may also research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life—food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

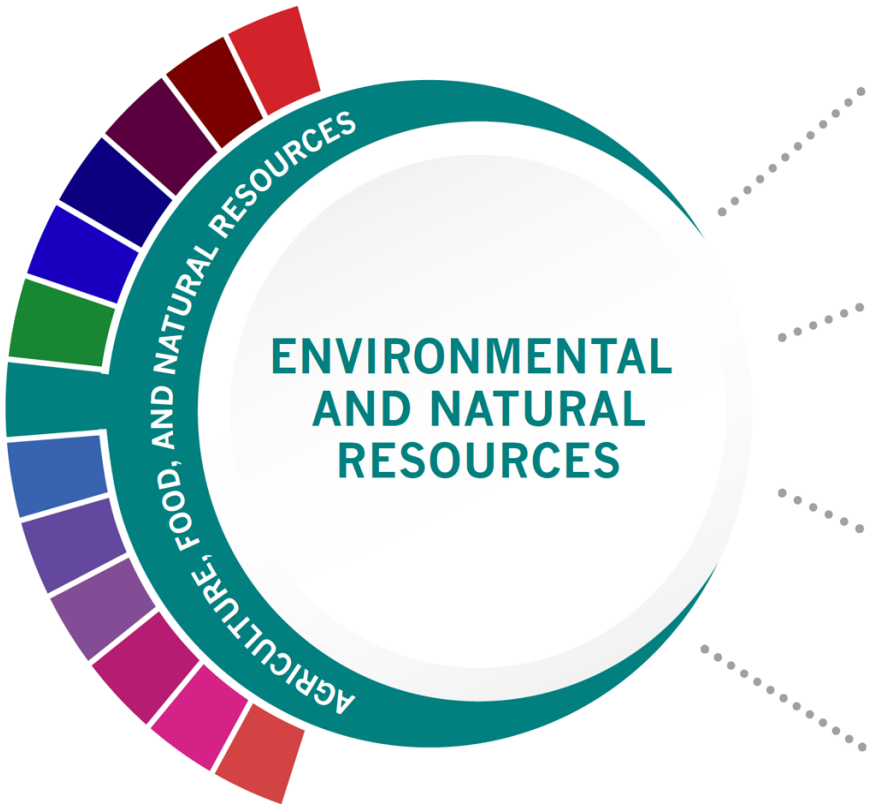
Successful completion of the Animal Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5100 Principles of Agriculture, Food, and Natural Resources	13000200 (1 credit)	None	9-12
5190 Small Animal Management	13000400 (0.5 credit)	Recommended PREQ: Principles of Ag	9-12
5135 Equine Science	13000500 (0.5 credit)	Recommended PREQ: Principles of Ag	9-12
5185 Livestock Production	13000300 (1 credit)	Recommended PREQ: Principles of Ag	10-12
5155 Advanced Animal Science	13000700 (1 credit)	PREQ: Biology and Chemistry or IPC; Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production	11-12
5105 Veterinary Medical Applications	13000600 (1 credit)	PREQ: Equine Science, Small Animal Management, or Livestock Production	11-12
5150 Practicum in Ag, Food, & Natural Resources (Cert Vet Asst)	13002500 (2 credits)	PREQ: Vet Med Applications Course #5105	12
5130 Practicum in Ag, Food, & Natural Resources	13002510 (2 credits)	PREQ: At least one course in Animal Science	11-12
5008 Project-Based Research	12701500 (1 credit)	None	11-12
0030 ISM - Scientific Research and Design May count as science credit	13037200 (1 credit)	PREQ: Biology, Chemistry, IPC, or Physics	11-12

AGRICULTURE, FOOD, AND NATURAL RESOURCE CAREER CLUSTER
ANIMAL SCIENCE



Level 1	Principles of Agriculture, Food, and Natural Resources
Level 2	Wildlife, Fisheries, and Ecology Management
Level 3	Project-Based Research
Level 4	Practicum in Agriculture, Food, and Natural Resources ISM - Scientific Research and Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Wastewater Collections, Class 1	Board Certified Environmental Engineer - Hazardous Waste Management	Environmental Science	Environmental Science	Environmental Science
Water Operators, Class D	Certified Water Technologist	Environmental Studies	Environmental/ Environmental Health Engineering	Environmental/ Environmental Health Engineering
OSHA Hazardous Waste Operations and Emergency Response	Certified Environmental Scientist	Wildlife, Fish, and Woodlands Science and Management	Wildlife, Fish, and Woodlands Science and Management	Wildlife, Fish, and Woodlands Science and Management
	Certified in Public Health	Environmental Engineering Technology/ Environmental Technology	Natural Resources Law Enforcement and Protective Services	Fishing and Fisheries Science and Management

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Environmental Engineering Technicians	$53,352	101	32%
Environmental Engineers	$86,757	288	25%
Environmental Science and Protection Technicians, Including Health	$40,268	508	17%
Environmental Scientists and Specialists, Including Health	$77,896	644	24%
Zoologists and Wildlife Biologists	$67,309	45	32%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Attend summer leadership events Texas FFA	Intern at a waste treatment plant FFA Supervised Agriculture Experience (SAE)

The Environmental and Natural Resources program of study explores the occupations and educational opportunities associated with the research, design, and planning of engineering or technical duties in the prevention and control of environmental hazards. This program of study may also include exploration into conducting research for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life—food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

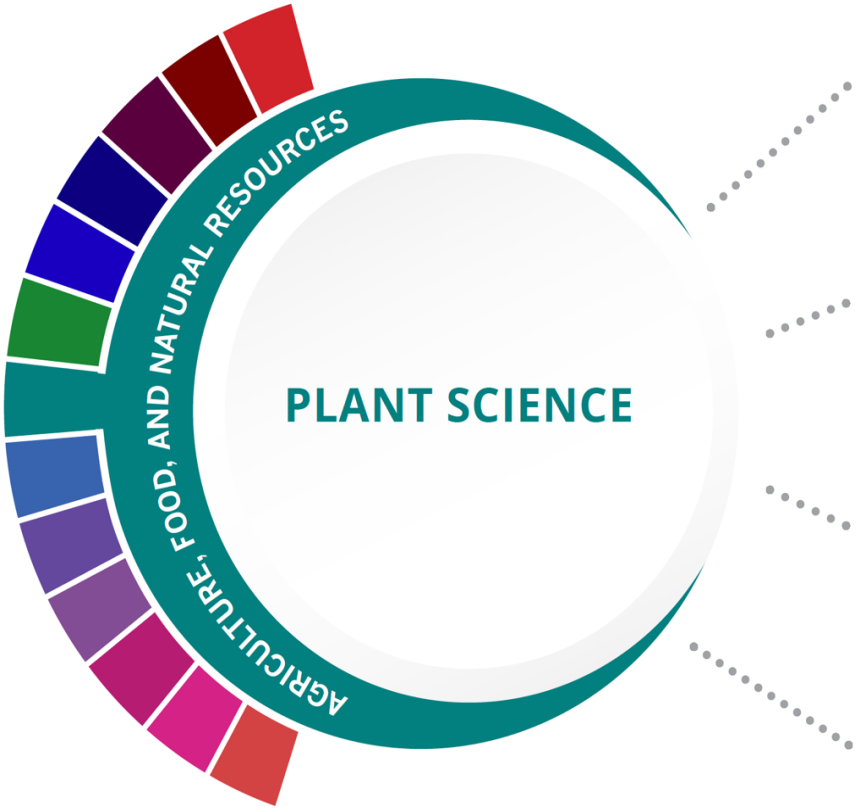
Successful completion of the Environmental and Natural Resources program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5100 Principles of Agriculture, Food, and Natural Resources	13000200 (1 credit)	None	9-12
5165 Wildlife, Fisheries, and Ecology Management	13001500 (1 credit)	Recommended PREQ: Principles of Ag	10-12
5008 Project-Based Research	12701500 (1 credit)	None	11-12
5130 Practicum in Agriculture, Food, and Natural Resources	13002510 (2 credits)	PREQ: Wildlife, Fisheries, and Ecology Management	11-12
0030 ISM - Scientific Research and Design May count as science credit	13037200 (1 credit)	PREQ: Biology, Chemistry, IPC, or Physics	11-12

AGRICULTURE, FOOD, AND NATURAL RESOURCE CAREER CLUSTER
ENVIRONMENTAL AND NATURAL RESOURCES



Level 1	Principles of Agriculture, Food, and Natural Resources
Level 2	Floral Design Horticulture
Level 3	Advanced Plant and Soil Science Advanced Floral Design
Level 4	Practicum in Agriculture, Food, and Natural Resources Project-Based Research ISM - Scientific Research and Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Landscape Irrigation Technician License	Pesticide Applicator	Applied Horticulture/ Horticulture Operations, General	Applied Horticulture/ Horticulture Operations, General	Applied Horticulture/ Horticulture Operations, General
Commercial/ Noncommercial Pesticide Applicator	Certified Floral Designer	Ornamental Horticulture	Agronomy and Crop Science	Agronomy and Crop Science
FHS - Texas State Floral Association Level One Floral Certification	Accredited Member of AIFD	Agricultural Business and Management, General	Agricultural Business and Management, General	Agricultural Business and Management, General
FHS - Texas State Floral Association Level Two Floral Certification	Landscape Industry Certified Technician	Turf and Turfgrass Management	Turf and Turfgrass Management	Farm/Farm and Ranch Management

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Soil and Plant Scientists	$54,662	116	21%
Tree Trimmers and Pruners	$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	$36,733	196	22%
Landscaping Supervisors	$44,408	807	19%
Biological Technicians	$42,931	452	17%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Texas FFA	Work part-time at a florist; start or work for a local landscaping business FFA Supervised Agriculture Experience (SAE)

The Plant Science program of study focuses on the science, research, and business of plants and other living organisms. It teaches students how to apply biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.

The Agriculture, Food, and Natural Resources (AFNR) Career Cluster focuses on the essential elements of life—food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Successful completion of the Plant Science program of study will fulfill requirements of a Business and Industry endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5100 Principles of Agriculture, Food, and Natural Resources	13000200 (1 credit)	None	9-12
5175 Floral Design May count as Fine Arts credit	13001800 (1 credit)	None	10-12
5195 Horticulture	13002000 (1 credit)	Recommended PREQ: Principles of Ag	10-12
5180 Advanced Floral Design	N1300270 (1 credit)	PREQ: Floral Design and Texas Floral Level 1 Certificate	11-12
5160 Advanced Plant and Soil Science May count as science credit	13002100 (1 credit)	One course from Plant Science and Biology, IPC, Chemistry, or Physics	11-12
5130 Practicum in Agriculture, Food, and Natural Resources	13002510 (2 credits)	PREQ: 1 class from Plant Science Program of Study	11-12
5008 Project-Based Research	12701500 (1 credit)	None	11-12
0030 ISM - Scientific Research and Design May count as science credit	13037200 (1 credit)	PREQ: Biology, Chemistry, IPC, or Physics	11-12

AGRICULTURE, FOOD, AND NATURAL RESOURCE CAREER CLUSTER
PLANT SCIENCE

Career & Technical Education Electives

Courses in this cluster will count toward the
Business & Industry Endorsement

AGRICULTURE, FOOD AND NATURAL RESOURCES CLUSTER

5100 PRINCIPLES OF AGRICULTURE, FOOD & NATURAL RESOURCES

Grades: 9 - 12
Credit: 1
Prerequisite: None

This course is designed to allow learners to gain knowledge about plant and animal agriculture while also studying career opportunities, leadership skills, and professional communication skills. This class is suggested prior to taking other agriculture science classes.

5190 SMALL ANIMAL MANAGEMENT

Grades: 9 - 12
Credit: .5
Prerequisite: None
Recommended: Principles of Agriculture, Food & Natural Resources

This course is designed to prepare students in the field of small animal management. It will provide students the skills regarding career opportunities, entry requirements, and industry expectations in veterinary careers. Students will develop knowledge and skills pertaining to animal ownership, industry hazards, current topics associated with animal rights/welfare, management and career opportunities. Suggested small animals which may be included in the course of study, but are not limited to small animals, amphibians, reptiles, avian, dogs and cats.

5135 EQUINE SCIENCE

Grades: 9 - 12
Credit: .5
Prerequisite: None
Recommended: Principles of Agriculture, Food & Natural Resources

This technical course is designed to develop knowledge and skills pertaining to the selection, nutrition, reproduction, health, and management of horses.

5185 LIVESTOCK PRODUCTION

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Agriculture, Food & Natural Resources

This technical course is designed to develop knowledge and skills pertaining to the nutrition, reproduction, health and management of livestock. Animal genetics, reproduction, and anatomy and physiology are covered. The selection and carcass evaluation of all classes of livestock is also covered.

5101 AGRIBUSINESS MANAGEMENT AND MARKETING

Grade Placement: 10–12
Credit: 1
Prerequisite: None
Recommended: Principles of Agriculture, Food, and Natural Resources or Principles of Business, Marketing, and Finance

Agribusiness Management and Marketing is designed to provide a foundation to agribusiness management and the free enterprise system. Instruction includes the use of economic principles such as supply and demand, budgeting, record keeping, finance, risk management, business law, marketing, and careers in agribusiness.

5165 WILDLIFE, FISHERIES AND ECOLOGY MANAGEMENT

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Agriculture, Food & Natural Resources

This course emphasized environmental issues and environmental topics of local and state concern. Learners are given the opportunity to receive certification for hunting and boating through the Texas Parks and Wildlife Educational Program. During each unit, safety is stressed. Other topics studied include species of mammals, birds, fish, reptiles, and game. Also, environmental concerns that lead to the species becoming threatened or endangered are covered. Activities include outdoor games, projects, videos, and discussion of current topics.

5175 FLORAL DESIGN

Grades: 10 - 12
Credit: 1
Prerequisite: None
This course may count as a fine arts credit

This course prepares students for careers in floral art and design. It is a laboratory-oriented course designed to provide students technical knowledge and skills related to horticulture systems, career opportunities, entry requirements, and industry expectations. This course is designed to develop students' ability to identify and demonstrate the principles and the techniques related to floral design as well as develop an understanding of the management of floral enterprise. This course will prepare students for the Texas Floral Design Level 1 certification.

5195 HORTICULTURE

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Agriculture, Food & Natural Resources and Biology

This course is designed to develop an understanding of common horticulture management practices as they relate to food and ornamental plant production. Landscape design, turf maintenance, plant nutrition, plant use and identification, plant chemical uses and precaution are introduced along with tools and equipment used in the industry.

5105 VETERINARY MEDICAL APPLICATIONS

Grades: 11 - 12
Credit: 1
Prerequisite: Equine Science, Small Animal Management or Livestock Production

This course is designed to meet the growing demand for qualified employees in the fast growing veterinary medicine field. Learners will study examination procedures, laboratory procedures, radiology, kennel, cage and stall care, surgical preparation, pharmacology and office procedures.

5155 ADVANCED ANIMAL SCIENCE

Grades: 11 - 12
Credit: 1
Prerequisite: Biology & IPC or Chemistry, Algebra I, Geometry, and either Small Animal Management, Equine Science or Livestock Production.
Recommended: Veterinary Medical Applications.
This course may count as a science credit

This course is designed to build on knowledge gained in prior animal agriculture classes covering such topics as animal reproduction, genetics, anatomy and physiology, nutrition, formulating feed rations, livestock handling, harvesting and marketing of livestock, and research in the field of animal agriculture.

5130 PRACTICUM IN AGRICULTURE, FOOD AND NATURAL RESOURCES

Grades: 11-12
Credit: 2
Prerequisite: None
Recommended: 1 course from Principles of Agriculture, Food & Natural Resources related to the Program of Study

Principles of Agriculture, Food & Natural Resources is designed to give students supervised practical application of knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experiences such as employment, independent study, internships, assistantships, mentorships, or laboratories. The practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Agriculture, Food, and Natural Resources Career Cluster.

5150 PRACTICUM IN AGRICULTURE, FOOD AND NATURAL RESOURCES (Certified Veterinary Assistant)

Grades: 12
Credit: 2
Prerequisite: Completed 5105 Veterinary Medical Applications. Student Information Sheet will be required

The practicum course is a paid or unpaid internship experience for students who are interested in the field of veterinary science. Students who complete this course will be prepared to take the Certified Veterinary Assistant 1 certification through Texas Veterinary Medical Association.

5180 ADVANCED FLORAL DESIGN

Grades: 11 - 12
Credit: 1
Prerequisite: Floral Design and Texas Floral Design level 1 Certificate

This class combines both traditional classroom activities and "on-the-job" real-life experiences. The classroom portion is designed to acquaint the student with theories and principles of artistic design. This is an advanced laboratory-oriented course designed to provide real world applications in floral design. This course will prepare students for the Texas Floral Design Level II certification

5160 ADVANCED PLANT & SOIL SCIENCE

Grades: 11-12
Credit: 1
Prerequisite: 1 course from Plant Science and Biology, IPC, Chemistry or Physics.
This course maybe used as a Science credit.

This course provides a way of learning about the natural world. Students learn how plant and soil science has influenced a vast body of knowledge, that there are still applications to be discovered, and that plant and soil science is the basis for many other fields of science. Investigations, laboratory practices, and field exercises are used to develop an understanding of current plant and soil science. This course is designed to prepare students for careers in the food and fiber industry.
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5008 PROJECT BASED RESEARCH

Grade: 11-12
Credit: 1
Prerequisite: None

Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

5090 CAREER PREPARATION I

Grade: 11-12
Credit: 2
Prerequisite: None

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5091 CAREER PREPARATION I / EXTENDED CAREER PREPARATION

Grade: 11-12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

0030 ISM – SCIENTIFIC RESEARCH AND DESIGN

Grade: 11-12
Credit: 1
Prerequisite: Biology, IPC, Chemistry, or Physics

This Scientific Research and Design course known as ISM allows academically advanced junior, and senior learners an opportunity to conduct career and science research investigations through an independent study mentorship. Students conducts empirical research under the guidance of a teacher facilitator and mentor. The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals. These components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Learners must be self-motivated and have transportation to visit off-campus mentors.

ARTS, AUDIO VIDEO TECHNOLOGY, AND COMMUNICATIONS

DESIGN AND MULTIMEDIA ARTS

DIGITAL COMMUNICATIONS

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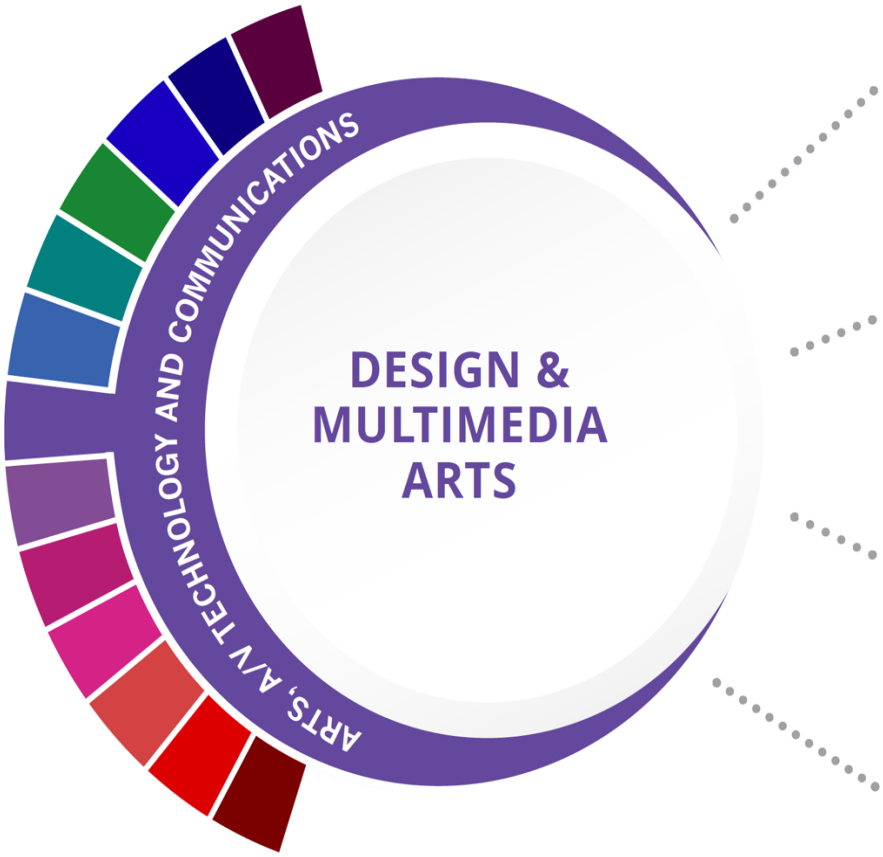


Level 1	Film Appreciation: Principles of Arts, A/V Technology, and Communications Digital Media - FJH
Level 2	Graphic Design and Illustration I Commercial Photography I
Level 3	Graphic Design and Illustration II Commercial Photography II
Level 4	Practicum in Graphic Design and Illustration Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Adobe Certified Associate Certifications	Certified Digital Designer	Animation, Interactive Technology, Video Graphics and Special Effects	Animation, Interactive Technology, Video Graphics and Special Effects	Animation, Interactive Technology, Video Graphics and Special Effects
Adobe Certified Expert Certifications	WOW Certified Web Designer Apprentice	Graphic Design	Graphic Design	Graphic Design
Apple Logic Pro X	Adobe Suite Certifications	Game and Interactive Media Design	Game and Interactive Media Design	Intermedia/ Multimedia

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Graphic Designers	$44,824	1,433	15%
Multimedia Artists and Animators	$67,392	186	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Join a website development or coding club. Participate in SkillsUSA	Intern with a multimedia or animation studio. Obtain a certificate or certification in graphic design.

The Design and Multimedia Arts program of study explores the occupations and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. This program of study may also include exploration into designing clothing and accessories, and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media, for use in computer games, movies, music videos, and commercials.

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

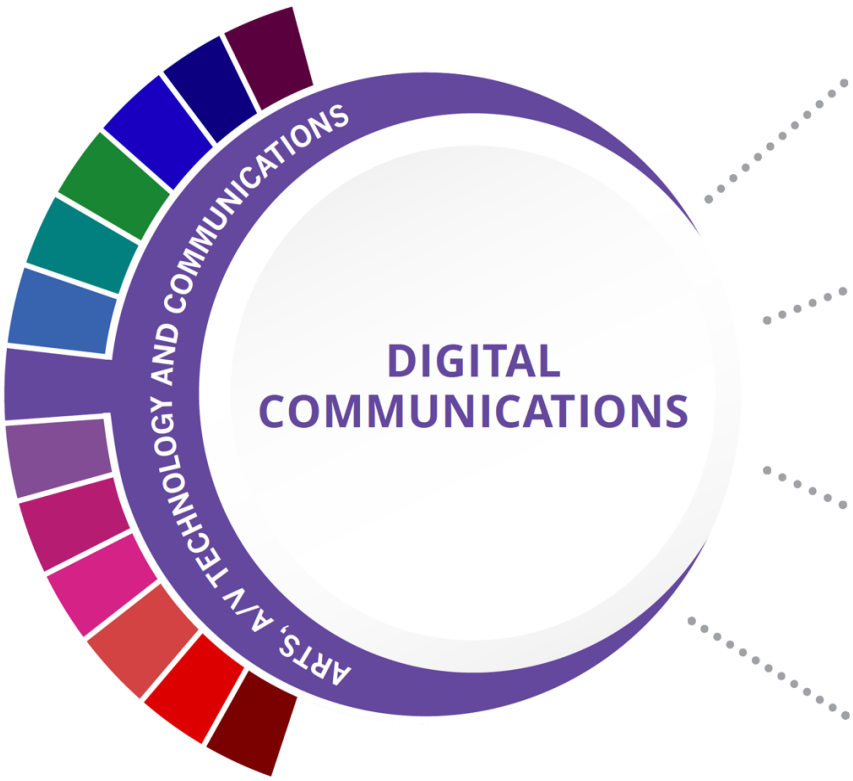
Successful completion of the Design & Multimedia Arts program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

TEA® Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
7105 Film Appreciation: Principles of Arts, A/V Technology, and Communications	13008200 (1 credit)	None	9-12
7165 Graphic Design and Illustration I	13008800 (1 credits)	Recommended PREQ: Film Appreciation	10-12
7616 Annual/Commercial Photography I	13009100 (1 credit)	PREQ: Journalism I	10-12
7170 Graphic Design and Illustration II	13008900 (1 credit)	PREQ: Graphic Design and Illustration I	10-12
7617 Annual/Commercial Photography II	13009200 (1 credit)	PREQ: Journalism I	10-12
7180 Practicum in Graphic Design and Illustration	13009000 (2 credits)	PREQ: Graphic Design and Illustration II	12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12

ARTS, AUDIO/VIDEO, TECHNOLOGY, AND COMMUNICATIONS CAREER CLUSTER
DESIGN AND MULTIMEDIA ARTS



Level 1	Film Appreciation: Principles of Arts, A/V Technology, and Communications Professional Communications Global Solutions in a Digital World - FJH
Level 2	Audio/Video Production I Digital Audio Technology I
Level 3	Audio Video Production II Digital Audio Technology II
Level 4	Practicum of Audio/Video Production I Practicum of Audio/Video Production II Practicum of Digital Audio Technology

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Apple Final Cut Pro X	Certified Video Engineer	Recording Arts Technology/ Technician	Recording Arts Technology/ Technician	Communications Technology/ Technician
FHS- Society of Broadcast Engineers TV Operator	Commercial Audio Technician	Cinematography and Film/ Video Production	Cinematography and Film/ Video Production	Cinematography and Film/ Video Production
FHS – OSHA General Industry Certification	Certified AM Directional Specialist	Radio and Television Broadcasting Technology/ Technician	Radio and Television	Radio and Television
Adobe Certified Associate Certifications	Certified Broadcast Radio Engineer	Music Technology	Agricultural Communication/ Journalism	Agricultural Communication/ Journalism

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Sound Engineering Technicians	$39,562	79	27%
Camera Operators, Television, Video and Motion Picture	$50,024	129	9%
Audio and Video Equipment Technicians	$40,581	757	29%
Film and Video Editors	$47,382	118	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Shadow a production team Participate in SkillsUSA	Intern at a local television station or video production company Work with a local company on a project

The Digital Communications program of study explores the occupations and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. This program of study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

The Arts, A/V Technology and Communications (AAVTC) Career Cluster focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

Successful completion of the Digital Communications program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
7105 Film Appreciation: Principles of Arts, A/V Technology, and Communications	13008200 (1 credit)	None	9-12
7220 Professional Communications	13009900 (.5 credits)	None	9-12
7108 Audio/Video Production I	13008500 (1 credits)	None	9-12
7185 Digital Audio Technology I	13009950 (1 credit)	None	9-12
7100 Audio Video Production II/Lab (MCS I)	13008610 (2 credits)	PREQ: Audio/Video Production I	10-12
7186 Digital Audio Technology II	13009960 (1 credit)	PREQ: Digital Audio Technology I	10-12
7125 Practicum of Audio/Video Production I (MCS II)	13008700 (2 credits)	PREQ: Audio/Video Production II/Lab	11-12
7150 Practicum of Audio/Video Production II (MCS III)	13008710 (2 credits)	PREQ: Practicum of Audio/Video Production I	12
7156 Practicum of Digital Audio Technology	TBA (2 credits)	PREQ: Digital Audio Technology II	11-12

ARTS, AUDIO/VIDEO, TECHNOLOGY, AND COMMUNICATIONS CAREER CLUSTER
DIGITAL COMMUNICATIONS

Career & Technical Education Electives

Courses in this cluster will count toward the

Business & Industry Endorsement

ARTS, AUDIO/VISUAL AND COMMUNICATION CLUSTER

DESIGN AND MULTIMEDIA ARTS

7105 FILM APPRECIATION - PRINCIPLES OF ARTS, A/V TECHNOLOGY AND COMMUNICATIONS

Grade: 9 - 12
Credit: 1
Prerequisite: None

Students who would like to enter into the Graphic Design or AV Production pathways, but are unsure of which discipline to pursue should take this course. Film Appreciation is an introductory course that provides students an opportunity to explore various types of media careers. Emphasis will be placed on understanding filmmaking and graphic design work through a wide variety of hands-on projects. These projects include script writing, video production and editing (Adobe Premiere) , digital photography and editing (Adobe Photoshop), graphic design (Adobe Illustrator) and series of film study and media literacy lessons.

7165 GRAPHIC DESIGN I

Grade: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Film Appreciation

Students wishing to pursue the Graphic Design pathway should begin with this course. Graphic Design students will increase their understanding of the visual arts they are exposed to through television, print and the Internet. Hands-on projects utilizing art supplies, photography equipment and computer programs such as Adobe Photoshop and Adobe Illustrator are central to the course. Students will practice drawing skills, corporate branding, page layout design, illustration, and product package design. This class is required as a prerequisite to enroll in Graphic Design II.

7170 GRAPHIC DESIGN II

Grade: 10 - 12
Credits: 1
Prerequisite: Graphic Design I, and Interview

This course is the advanced level continuation of the Graphic Design pathway. Focus will be on problem solving through visual design. Students will build on their skills from the Graphic Design I course and supplement with advanced techniques and methods in organization, workplace skills, photography, computer software and critique. Students will be responsible for the production of graphic design needs for FHS clubs, athletics and events. As well as creating designs for contest and festival entry. Participation in SkillsUSA contests, and other co-curricular graphic design opportunities is expected of all Graphic Design II students.

7180 PRACTICUM IN GRAPHIC DESIGN

Grade: 12
Credit: 2
Prerequisite: Graphic Design II, and Interview

This advanced course is a continuation of participation in the Graphic Design program. Students will continue to increase their understanding of visual arts, electronic media and practice design skills and techniques. Students enrolling in this course are expected to take on leadership roles and set a good example in the classroom in addition to their continued participation in SkillsUSA.. Practicum AVP students will also work to satisfy the needs of FISD and/or external clients through internships and mentorships. This course is only offered as a 2 period block and can be repeated for credit, provided students are able to learn through different opportunities in the second year.

7616 ANNUAL/COMMERCIAL PHOTOGRAPHY I
7617 ANNUAL/COMMERCIAL PHOTOGRAPHY II

Grade: 10 - 12
Credit: 1
Prerequisite: Journalism I

Learners electing this course work prepare the yearbook for publication. Positions include editor, news editor, feature editor, sports editor, business manager, staff artist, photographers, and reporters. Design, photography, and all aspects of publishing the yearbook are involved in this course. Coverage of activities, sports, and campus life will require students to work before and/or after school. Staff members make decisions concerning theme, type of arrangement, and pictures that appear in the yearbook. Class is limited to 25 learners.

5090 CAREER PREPARATION I

Grade: 11-12
Credit:
2 Prerequisite: None

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5091 CAREER PREPARATION I / EXTENDED CAREER PREPARATION

Grade: 11-12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

DIGITAL COMMUNICATIONS

7105 FILM APPRECIATION - PRINCIPLES OF ARTS, A/V TECHNOLOGY AND COMMUNICATIONS

Grade: 9 - 12
Credit: 1
Prerequisite: None

Students who would like to enter into the Graphic Design or AV Production pathways, but are unsure of which discipline to pursue should take this course. Film Appreciation is an introductory course that provides students an opportunity to explore various types of media careers. Emphasis will be placed on understanding filmmaking and graphic design work through a wide variety of hands-on projects. These projects include script writing, video production and editing (Adobe Premiere) , digital photography and editing (Adobe Photoshop), graphic design (Adobe Illustrator) and series of film study and media literacy lessons.

7108 AUDIO/VIDEO PRODUCTION I

Grade: 9 - 12
Credit: 1
Prerequisite: None

Students wishing to pursue the AV Production pathway (MCS) should begin with this course. AV Production students will increase their understanding of the messages they are exposed to through television, film, radio, print and the Internet. Hands-on projects utilizing audio/video equipment and computer programs such as Adobe Illustrator and Adobe Premiere Pro are the backbone of the course. Students will practice interview skills, design a production company logo, film and edit a TV commercial, movie scene, documentary and music video. This class is required as a prerequisite to enroll in Audio/Video Production II and participate in the MCS program.

7185 DIGITAL AUDIO TECHNOLOGY I

Grade: 9 - 12
Credit: 1
Prerequisite: None

Digital Audio Technology I is designed for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, music production and live sound, and additional opportunities and skill sets. Creating podcasts, recording live music events, experience with different types of microphones and audio editing software, Adobe Auditions and contributing to the FHS Streaming radio station The Stang will be among the various projects for all students.

7100 AUDIO/VIDEO PRODUCTION II (MCS I)

Grade: 10 - 12
Credit: 2
Prerequisite: Audio/Video Production I, and Interview

This course is the advanced level continuation of the AV Production pathway. Focus will be on broadcast television and film study. Students will build on their skills from the Audio/Video Production I course and supplement with advanced techniques and methods in organization, script writing, camera work, editing and critique. Students will be responsible for the daily production of a quality MCS news program broadcast for the students of FHS as well as creating short films for contest and festival entry. Participation in SkillsUSA contests, video production of FHS Winston Stadium sporting events and other co-curricular video opportunities is expected of all MCS students. This course is only offered as a two period block with AV Production II Lab.

7186 DIGITAL AUDIO TECHNOLOGY II

Grade Placement: 10–12
Credits: 1
Prerequisite: Digital Audio Technology l.

Digital Audio Technology II was designed to provide additional opportunities and skill sets for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, and music production and live sound. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills. Students will program and host their own radio shows on FHS streaming station The Stang and participate in the SkillsUSA audio production competitions.

7125 PRACTICUM IN AUDIO/VIDEO PRODUCTION I (MCS II)

Grade: 11 - 12
Credit: 2
Prerequisite: AV Production II, and Interview

This advanced course is a continuation in the MCS program. Students will perform at the Practicum level of electronic media and practice production skills and techniques. Students enrolling in this course are expected to take on leadership roles and set a good example in the classroom in addition to their continued participation in SkillsUSA, UIL Film and FHS Winston Stadium video scoreboard shifts. Practicum AVP students will also work to satisfy the needs of FISD and/or external clients through internships and mentorships. This course is only offered as a 2 period block.

7150 PRACTICUM IN AUDIO/VIDEO PRODUCTION II (MCS III)

Grade: 12
Credit: 2
Prerequisite: Practicum in Audio/Video I, and Interview

This senior only, capstone course will offer students an opportunity to be leaders in the MCS broadcast and explore individual studies in film production. Students will be expected to participate in Skills USA/AV competition and attempt SBE/OSHA Internship opportunities with the City of Friendswood industry level certification.

7156 PRACTICUM OF DIGITAL AUDIO TECHNOLOGY

Grade: 11-12
Credit: 2
Prerequisite: Digital Audio Technology II

Practicum of Digital Audio Technology is designed to provide additional opportunities and skill sets for students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, and music production and live sound. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills. Students will program and host their own radio shows on FHS streaming station The Stang and participate in the SkillsUSA audio production competitions. Internship opportunities through FISD Communications, FHS Athletics, and the City of Friendswood Communications will be made available to students enrolled in this course.

ACCOUNTING AND FINANCIAL SERVICES

BUSINESS MANAGEMENT

ENTREPRENEURSHIP

MARKETING AND SALES

TEA
Texas Education Agency

Level 1	Principles of Business, Marketing, and Finance Money Matters
Level 2	Microsoft Office Certification (MOS) Accounting I
Level 3	Accounting II Stock Market
Level 4	Business Intern: Practicum in Business Management Career Preparation I Career Preparation II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
QuickBooks Certified User	Certified Management Accountant	Real Estate	Accounting	Financial Accounting
FHS - Microsoft Office Specialist or Expert - Excel	Certified Internal Auditor	Financial, General	Financial, General	Business Administration
Certified Insurance Service Representative	Certified Income Specialist	Financial Planning and Services]	Financial Planning and Services]	Financial Planning
	Certified Public Accountant	Certified Income Specialist	Certified Income Specialist	

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Accountants and Auditors	$71,469	14,436	22%
Loan Officers	$68,598	2,419	19%
Personal Financial Advisors	$86,965	1,861	52%
Administrative Service Managers	$96,138	2,277	21%
Insurance Underwriters	$66,206	594	14%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Business Professionals of America (BPA) DECA	Internship with local accounting firm Microsoft Office Specialist (MOS) certifications

The Accounting and Financial Services program of study teaches CTE learners how to examine, analyze, and interpret financial records. Through this program of study, students will learn the skills necessary to perform financial services, prepare financial statements, interpret accounting records, give advice, or audit and evaluate statements prepared by others. This program of study will also introduce students to mathematical modeling tools.

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

Successful completion of the Accounting & Financial Services program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5000 Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-11
5020 Money Matters	13016200 (1 credit)	Recommended PREQ: Principles of Business	10-12
5037 Microsoft Office Certification (MOS)	13011400 (1 credit)	Recommended PREQ: Principles of Business	10-12
5050 Accounting I	13016600 (1 credit)	PREQ: Principles of Business	10-12
5053 Accounting II May count as math credit	13016700 (1 credit)	PREQ: Accounting I	11-12
5070 Stock Market	13016400 (1 credit)	Recommended PREQ: Principles of Business and Money Matters	11-12
5010 Business Intern: Practicum in Business Management	13012200 (2 credits)	PREQ: Principles of Business and 1 course in business, marketing or finance.	11-12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12
5092 Career Preparation II 5093 Career Preparation II/Ext	12701400 (2credits) 12701405 (3 credits)	PREQ: Career Prep I	12

BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER
ACCOUNTING AND FINANCIAL SERVICES

Level 1	Principles of Business, Marketing, and Finance
Level 2	Microsoft Office Certification (MOS)
Level 3	Business Law
Level 4	Business Intern: Practicum in Business Management Career Preparation I Career Preparation II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FHS - Microsoft Office Specialist or Expert- Excel	Certified Records Manager	Business Administration	Business Administration	Business Administration
FHS -Microsoft Office Specialist or Expert - Word	Certified Facility Manager	Business/ Commerce	Business/ Commerce	Business Management
Google Cloud Certified Professional – G-Suite	Certified Commercial Contracts Manager	Public Administration	Public Administration	Public Administration
Certified Associate in Project Management	Teradata 14 Basics/ Certified Technical Specialist	Business Management	Management Science	Management Science

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Administrative Service Managers	$96,138	2,277	21%
Management Analysts	$87,651	4,706	32%
General and Operations Managers	$107,640	18,679	20%
Operations Research Analysts	$78,083	1,128	38%
Supervisors of Administrative Support Workers	$57,616	14,982	20%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Business Professional of America (BPA), DECA	Internship with local business or chamber of commerce

The Business Management program of study teaches CTE learners how to plan, direct, and coordinate the administrative services and operations of an organization. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This program of study will also introduce students to mathematical modeling tools and organizational evaluation methods

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

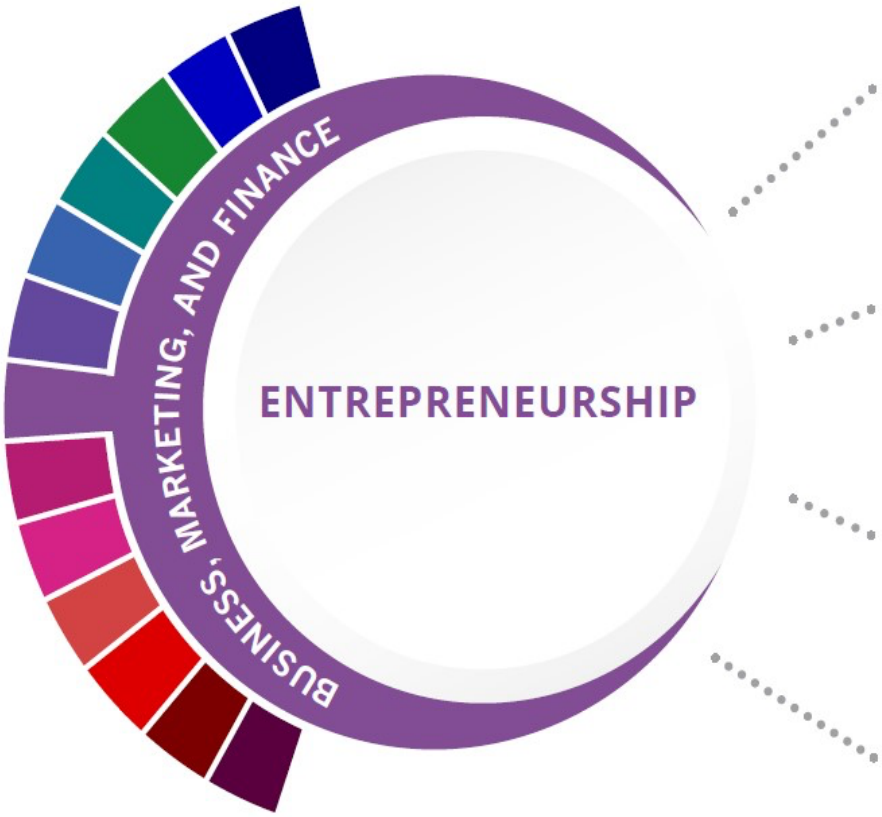
Successful completion of the Business Management program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5000 Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-11
5037 Microsoft Office Certification (MOS)	13011400 (1 credit)	Recommended PREQ: Principles of Business	10-12
5067 Business Law	13011700 (1 credit)	Recommended PREQ: Principles of Business or Principles of Law	11-12
5010 Business Intern: Practicum in Business Management	13012200 (2 credits)	Recommended PREQ: Principles of Business plus 1 course in business, marketing, or finance	11-12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12
5092 Career Preparation II 5093 Career Preparation II/Ext	12701400 (2 credits) 12701405 (3 credits)	Career Preparation I	12

BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER
BUSINESS MANAGEMENT



Level 1	Principles of Business, Marketing, and Finance
Level 2	Microsoft Office Certification (MOS)
Level 3	Mustang Business INCubator (Entrepreneurship)
Level 4	Mustang Business ACCELerator – (Entrepreneurship II) Business Intern: Practicum in Business Management Practicum in Marketing I and II Project-Based Research Career Preparation I and II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FHS - Microsoft Office Specialist - Excel	Certified Facility Manager	Business Administration and Management	Business Administration and Management	Business Administration and Management
FHS - Microsoft Office Specialist - Word	Certified Management Accountant	Business/ Commerce	Business/ Commerce	Business/ Commerce
Entrepreneurship and Small Business	Certified Project Consultant	Public Administration	Public Administration	Public Administration
	Accredited Management Consultant	Business Management	Management Science	Management Science

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
General and Operations Managers	$107,640	18,679	20%
Management Analysts	$87,651	4,706	32%
Managers, All Others	$113,110	1,794	26%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Business Professionals of America (BPA) DECA	Internship with local management consulting firm

The Entrepreneurship program of study teaches CTE learners how to plan, direct, and coordinate the management and operations of public or private sector organizations. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, analyze management structures, and plan for the use of materials and human resources.

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

Successful completion of the Entrepreneurship program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5000 Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-11
5037 Microsoft Office Certification (MOS)	13011400 (1 credit)	Recommended PREQ: Principles of Business	10-12
5040 Mustang Business INCubator	13034400 (1 credit)	Recommended PREQ: Principles of Business	11-12
5080 Mustang Business ACCELerator	N1303423 (1 credit)	PREQ: Mustang Business INCubator	12
5010 Business Intern: Practicum in Business Management	13012200 (2 credits)	PREQ: Principles of Business plus 1 course in business, marketing, or finance	11-12
5510 Practicum in Marketing I/Ext 5545 Practicum in Marketing II/Ext	13034800 (2 credits) 13034805 (3 credits) 13034810 (2 credits) 13034815 (3 credits)	PREQ: 2 courses in Marketing or Entrepreneurship Practicum in Marketing I	11-12 12
5008 Project-Based Research	12701500 (1 credit)	None	11-12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12
5092 Career Preparation II 5093 Career Preparation II/Ext	12701400 (2 credits) 12701405 (3 credits)	Career Preparation I	12

BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER
ENTREPRENEURSHIP

Level 1	Principles of Business, Marketing, and Finance
Level 2	Sports and Entertainment Marketing Social Media Marketing
Level 3	Fundamentals of Real Estate
Level 4	Practicum in Marketing I and II Career Preparation I and II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE / LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FHS - Microsoft Office Specialist or Expert - Excel	Certified Product Manager	Marketing/ Marketing Management, General	Marketing/ Marketing Management, General	Marketing
FHS - Microsoft Office Specialist or Expert - Word	DMA Certified Marketing Professional	Consumer Merchandising/ Ret ailing Management	Business Administration	Business Administration
FHS – Texas Real Estate License	Certified Salesperson	International Marketing	Applied Economics	Applied Economics
Entrepreneurship and Small Business	Real Estate Appraiser	Business	Marketing Research	Advertising

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Marketing Research Analysts and Marketing Specialists	$70,346	4,664	40%
Insurance Sales Agents	$43,181	5,886	30%
First-Line Supervisors of Retail Sales Workers	$72,550	2,826	15%
Wholesale and Retail Buyers	$51,106	1,229	19%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Business Professionals of America (BPA), DECA	Internship with local marketing firm; shadow a real estate agent; operate a school store on campus

The Marketing and Sales program of study teaches CTE learners how to collect information to determine potential sales of a product or service and/or create a marketing campaign to market or distribute goods and services. Through this program of study, students will learn the skills necessary to understand and apply data on customer demographics, preferences, needs, and buying habits.

The Business, Marketing, and Finance Career Cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

Successful completion of the Marketing and Sales program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5000 Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-11
5465 Sports and Entertainment Marketing	13034600 (.5 credit)	Recommended PREQ: Principles of Business	10-12
5480 Social Media Marketing	13034650 (.5 credit)	Recommended PREQ: Principles of Business	10-12
5485 Fundamentals of Real Estate	N1301120 (2 credits)	Recommended PREQ: Principles of Business Fees Apply	12
5510 Practicum in Marketing I/Ext 5545 Practicum in Marketing II/Ext	13034800 (2 credits) 13034805 (3 credits) 13034810 (2 credits) 13034815 (3 credits)	PREQ: 2 courses in Marketing or Entrepreneurship Practicum in Marketing I	11-12 12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12
5092 Career Preparation II 5093 Career Preparation II/Ext	12701400 (2 credits) 12701405 (3 credits)	Career Preparation I	12

BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER
MARKETING AND SALES

Career & Technical Education Electives

Courses in this cluster will count toward the

Business & Industry Endorsement

BUSINESS, MARKETING AND FINANCE CAREER CLUSTER

5000 PRINCIPLES OF BUSINESS, MARKETING AND FINANCE

Grades: 9 - 11
Credit: 1
Prerequisite: None

Project based learning class
Learners gain knowledge and skills that impact U.S. business as well as global business. They learn the process of business ethics, marketing, advertising, sales, and financial management principles. This course teaches a variety of skills needed in the 21st century business. A variety of interesting and relevant activities will be taught using Microsoft Office applications.

5020 MONEY MATTERS

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Business, Marketing & Finance

Learn how to manage personal finances while investigating the free-enterprise system and its impact on consumers and businesses. Students will learn how to set specific and attainable financial goals and apply effective budgeting and money management techniques. In addition, learners will analyze methods of achieving long-term financial goals through investments, tax planning, asset allocation, risk management, retirement and estate planning.

5070 STOCK MARKET

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Business, Marketing & Finance and Money Matters
Financial markets exert a powerful presence in our lives and are central to the functioning of our economy. What role does the stock market play and how does it function? What factors govern stock market behavior and lead to market booms and busts? This course introduces the basic financial principles necessary to understand the role of the stock market in our economy and in our personal lives. Learners will explore careers in the securities and real estate industry and the licenses and certifications necessary to work in this field. The stock market game allows students to monitor a simulated investor's portfolio and apply investment techniques and analysis tools for selection of securities.

5037 MICROSOFT OFFICE CERTIFICATION (MOS)

Grade: 10 - 12
Credit: 1
Prerequisite: None
Recommended Principles of Business Marketing and Finance

This online curriculum guides learners through curriculum in Word, Excel, and PowerPoint. Upon completion, students will be able to earn a certificate in Microsoft Office: Word, Excel, and PowerPoint.

5067 BUSINESS LAW

Grades: 11 - 12
Credit: 1
Prerequisite: None
Recommended - Principles of Business, Marketing & Finance and/or Principles of Law, Public Safety, Corrections & Security

Learners learn the foundation of legal matters related to business law and personal law. Areas of study include how laws were formed, procedures in civil and criminal cases, making and terminating contracts, responsibilities of minors, being a consumer, purchasing power, personal and real property rights, starting a business and leadership skills. Instruction methods will include: projects, student debates, case studies, and lecture and class discussion. Learners will use various office applications in working on assignments and projects.

5040 MUSTANG BUSINESS INCUBATOR

Grades: 11 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Business Marketing & Finance

This course is designed to get students excited about becoming true entrepreneurs by giving them the opportunity to create and fully develop their own product and/or service. Real-world entrepreneurs and business experts will serve as coaches and mentors guiding student teams through the process of ideation, market research, and business plan development. Over the course of the year, student teams will learn about marketing, accounting, human resources, how to run experiments on their Business Model Canvas, customer segmentation, pricing, web development, as well as the legal aspects of starting a business. They will have access to a network of professionals to further develop their skills (teamwork, problem solving, presentation, communication) for college and career readiness.

5050 ACCOUNTING I

Grades: 10 - 12
Credit: 1
Prerequisite: Principles of Business, Marketing and Finance

A one-year course designed for learners to consider the field of accounting, including how it is impacted by business standards as well as the economic, financial, technological, legal and ethical factors. Learners reflect on this knowledge as they take in the process of recording, classifying, summarizing, analyzing, and communicating financial information. Learners will prepare and interpret financial reports for use in business decision-making. This course is a must if the student wants to pursue a business major in college.

5053 ACCOUNTING II

Grades: 11 - 12
Credit: 1
Prerequisite: Accounting I
This course may count as a math credit

Accounting II emphasizes the computer applications of accounting principles through on-line curriculum. Students will review the full accounting cycle on the computer. Additional concepts will be introduced in this course to advance the student's knowledge of the accounting field. The course will cover such topics as careers in accounting, review of the accounting cycle, partnerships, corporations, departmentalized accounting, delinquent accounts, plant assets, accruals, financial statement analysis, cash accounting, budgeting, computerized payroll problems and management decision making.

5010 BUSINESS INTERN: PRACTICUM IN BUSINESS MANAGEMENT

Grades: 11 - 12
Credit: 2
Prerequisite: Principles of Business, Marketing and Finance, and at least one other course in the Business, Marketing and Finance Program of Study. Student Information Sheet and interview required.
Students must provide own transportation

The primary purpose of the business internship program is to provide learners exposure to different facets of business operations. Learners will be given opportunities to develop marketable skills through on-the-job training at businesses working with the cooperation with the Friendswood Independent School District. In addition to skill development, considerable emphasis is placed on the development of good work habits, responsibility, ethical behavior in business, honesty, loyalty and leadership. While working as an intern, the student may, or may not, earn wages. To be determined by each business/training site.

5480 SOCIAL MEDIA MARKETING

Grades: 10 - 12
Credits: .5
Prerequisites: None
Recommended Principles of Business, Marketing and Finance

Social Media Marketing is designed to look at the rise of social media and how marketers are integrating social media tools in their overall marketing strategy. This course will investigate how the marketing community measures success in the world of social media. Learners will understand how to manage a successful social media presence for an organization. They will also learn techniques for gaining customer and consumer buy-in to achieve their marketing goals. How to properly select social media platforms to engage consumers, monitor and measure the results of these efforts will also be discussed.

5465 SPORTS & ENTERTAINMENT MARKETING

Grades: 10 - 12
Credit: .5
Prerequisite: None
Recommended: Principles of Business, Marketing & Finance

Learn how to market local and nationally recognized sports franchise. This course is designed to develop a thorough understanding of the marketing concepts and theories that apply to sports and events. Learners will be given the opportunity to develop promotional plans, scholarship proposals, endorsement deals and evaluate management techniques.

5485 FUNDAMENTALS OF REAL ESTATE

Grade Placement: 12
Credits: 2
Prerequisite: None
Recommended: Principles of Business, Marketing, and Finance.
Students must be 18 years old or turn 18 shortly after graduation.

Are you interested in becoming a real estate agent in the state of Texas? This 180 hour licensing course will guide you through an online curriculum to complete the pre-licensure education requirements of the Texas Real Estate Commission to obtain a real estate salesperson license. Students will work at their own pace through the curriculum and exam prep materials.
Pioneer School of Real Estate fees apply for course, textbook, background check, test, and license.

5510 PRACTICUM IN MARKETING I

Grades: 11 - 12
Credit: 2, total of 3 credits when taken with Extended Practicum in Marketing
Prerequisite: 2 courses in Marketing or Entrepreneurship Programs of Study,Student Information Sheet is required

Must provide own transportation

Learners will gain knowledge and skills that help them become proficient in one or more of the marketing areas. Learners will be exposed to appropriate management and research skills needed to compete in a global marketing world. This practicum is designed to give learners supervised practical application of previously studied knowledge and skills. This practicum course is a paid or unpaid experience and can occur in a variety of locations.

5545 PRACTICUM IN MARKETING II

Grade: 12
Credit: 2, total of 3 credits when taken with Extended Practicum in Marketing II
Prerequisite: Practicum in Marketing I, Student Information Sheet is required
Must provide own transportation

This senior capstone course is for learns who will be experiencing different aspects of the industry. Learners will gain additional and more advanced knowledge and skills in the marketing field. This capstone course may be a paid or unpaid experience for learners.

5080 MUSTANG BUSINESS ACCELERATOR

Grade: 12
Credit: 1
Prerequisite: Mustang Business INCubator

ACCELerator fosters startup development to transition the business founded in INCubatoredu into a sustainable, functioning business. Students will be challenged to think critically about the process of getting, growing and keeping customers, developing business processes, and continuing to build, test, and iterate the product or service. Emphasis will be placed on predicting, measuring, analyzing and concluding strategies developed and applied to promote the above mentioned process.

5008 PROJECT BASED RESEARCH

Grade: 11-12
Credit: 1
Prerequisite: None

Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

5090 CAREER PREPARATION I

Grade: 11-12
Credit: 2
Prerequisite: None

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5091 CAREER PREPARATION I / EXTENDED CAREER PREPARATION

Grade: 11-12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed. Corequisites: Career Preparation I.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5092 CAREER PREPARATION II

Grade: 12
Credit: 2
Prerequisite: Career Preparation I

Career Preparation II develops essential knowledge and skills through advanced classroom instruction with business and industry employment experiences. Career Prep II maintains relevance and rigor, supports, student attainment of academic standards, and effectively prepares students for college and career success.

5093 CAREER PREPARATION II / EXTENDED CAREER PREPARATION

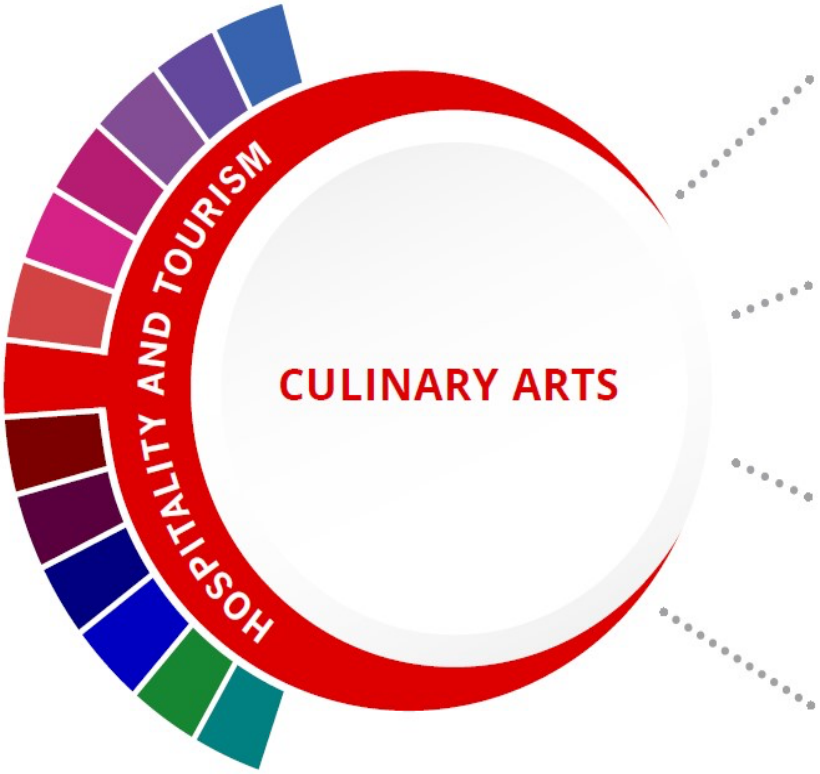
Grade: 12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

HOSPITALITY AND TOURISM

CULINARY ARTS

Texas Education Agency



Level 1	Introduction to Culinary
Level 2	Culinary Arts
Level 3	Practicum in Culinary Arts I Food Science
Level 4	Practicum in Culinary Arts II Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FHS – Food Handler	Certified Chef	Hotel and Restaurant Management	Hotel and Restaurant Management	Hotel and Restaurant Management
Certified Fundamentals Pastry Cook	Foodservice Management Professional	Restaurant Culinary and Catering Management	Food Service Systems Administration/ Management	Food Service Systems Administration/ Management
FHS – ServSafe Manager	Comprehensive Food Safety	Hospitality Administration/ Management, General	Hospitality Administration/ Management, General	Hospitality Administration/ Management, General
ManageFirst Professional	Certified Food and Beverage Executive	Culinary Arts/ Chef Training	Culinary Science and Food Service Management	Business Administration Management, General

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Food and Beverage Managers	$55,619	1,561	28%
Chef and Head Cooks	$43,285	1,366	25%
Food Science Technicians	$34,382	236	11%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Family, Career, and Community Leaders of America (FCCLA), American Culinary Federation, Texas Restaurant Association	Plan a catering event or work for a catering company; participate in a cooking course; work in a restaurant; cook at home

The Culinary Arts program of study introduces CTE learners to occupations and educational opportunities related to the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study also explores opportunities involved in directing and participating in the preparation and cooking of food.

The Hospitality and Tourism Career Cluster focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students acquire knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

Successful completion of the Culinary Arts program of study will fulfill requirements of the Business and Industry Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5338 Introduction to Culinary Arts	13022550 (1 credit)	None	9-12
5340 Culinary Arts	13022600 (2 credits)	PREQ: Intro to Culinary Arts	10-12
5335 Food Science	13023000 (1 credit)	PREQ: 3 units of Science, including Biology and Chemistry Recommended PREQ: 1 course from Culinary Arts	11-12
5350 Practicum in Culinary Arts I	13022700 (2 credits)	PREQ: Culinary Arts	11-12
5353 Practicum in Culinary Arts II	13022710 (2 credits)	PREQ: Practicum in Culinary Arts I	12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12

HOSPITALITY AND TOURISM CAREER CLUSTER
CULINARY ARTS

Career & Technical Education Electives

Courses in this cluster will count toward the

Business & Industry Endorsement

HOSPITALITY AND TOURISM CAREER CLUSTER

5338 INTRODUCTION TO CULINARY ARTS

Grades: 9 - 12
Credit: 1
Prerequisite: None

This laboratory course will provide insight into the operations of a well-run restaurant. Students will be exposed to food production skills, as well as various levels of industry management and hospitality skills. Students will learn to make informed and correct nutritional food choices. The course will emphasize the principles of planning, organizing, staffing and controlling the management of a variety of food service operations.

5340 CULINARY ARTS

Grade: 10 - 12
Credit: 2
Prerequisite: Introduction to Culinary Arts

This laboratory course begins with the fundamentals and principles of the art of cooking and the science of baking which includes management and production skills and techniques. Learners can pursue a national sanitation certification and will learn concepts and skills to prepare them for the culinary arts industry.

5350 PRACTICUM IN CULINARY ARTS I

Grade: 11 - 12
Credit: 2
Prerequisite: Culinary Arts

This course is an extension of techniques learned in Culinary Arts 1. This course combines classroom instruction with job-specific skills related to the food service industry. Students will be exposed to advanced culinary arts techniques and restaurant management experiences.

5353 PRACTICUM IN CULINARY ARTS II

Grade: 12
Credit: 2
Prerequisite: Practicum in Culinary Arts I

This course is an extension of the techniques learned in Practicum in Culinary Arts I. This course provides occupationally specific opportunities for students to participate in learning with actual business and industry. The goal of this course is to prepare students with a variety of skills in a fast-changing workplace.

5335 FOOD SCIENCE

Grade: 11 - 12
Credit: 1
Prerequisite: 3 science courses including Biology and Chemistry
Recommended: 1 course from the Culinary Arts Program of Study
This course may count as a science credit

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. Topics of study include: principles of food safety and microbiology, chemical properties of food, functions of enzymes, how leavening agents are used in baking, purposes of additives in foods, physiology of digestion, metabolism and how food provides energy, and basic nutrients and their specific properties related to food science such as carbohydrates, fats, protein, vitamins and minerals, and water.

5090 CAREER PREPARATION I

Grade: 11-12
Credit: 2
Prerequisite: None

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5091 CAREER PREPARATION I / EXTENDED CAREER PREPARATION

Grade: 11-12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

EDUCATION AND TRAINING

TEACHING AND TRAINING

Texas Education Agency

Level 1	Principles of Education and Training
	Child Development
Level 2	
Level 3	Ready, Set, Teach I: Instructional Practices
Level 4	Ready, Set, Teach II: Practicum in Education and Training Project Based Research Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FHS - Educational Aide I	Texas Educator Certification Program	Teacher Education	Bilingual and Multilingual Education	Instruction and Learning
FHS – Region 4 ESC Substitute Teacher	Educational Instructional Technology	Education, General (or specific subject area)	Education, General (or specific subject area)	Educational Leadership and Administration, General
	Counselor, Professional	Special Education	Special Education	Special Education
	Athletic Trainer	Health and Physical Education/ Fitness	Health and Physical Education/ Fitness	Social and Philosophical Foundations of Education

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Adult Basic and Secondary Education and Literacy Teachers and Instructors	$48,069	862	17%
Middle School Teachers, Except Special and Career/ Technical Education	$54,510	6,407	15%
Career and Technical Education Teachers, Secondary School	$56,360	719	9%
Special Education Teachers, Secondary School	$56,720	980	18%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Family, Career and Community Leaders of America (FCCLA)	Teach a community education class; intern as a teaching assistant or tutor; serve as a camp counselor.

The Teaching and Training program of study prepares CTE learners for careers related to teaching, instruction, and creation of instructional and enrichment materials. The program of study introduces CTE learners to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

The Education and Training Career Cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training career cluster.

Successful completion of the Teaching and Training program of study will fulfill requirements of the Public Service Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5360 Principles of Education and Training	13014200 (1 credit)	None	9-11
5370 Child Development	13024700 (1 credit)	Recommended PREQ: Principles of Education	9-12
5380 Ready Set Teach I: Instructional Practices	13014400 (2 credits)	PREQ: Principles of Education or Child Development	11-12
5385 Ready Set Teach II: Practicum in Education and Training	13014500 (2 credits)	PREQ: Ready Set Teach I Instructional Practices	12
5008 Project Based Research	12701500 (1 credit)	None	11-12
5090 Career Preparation I 5090 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12

EDUCATION AND TRAINING CAREER CLUSTER
TEACHING AND TRAINING

Career & Technical Education Electives

Courses in this cluster will count toward the

Public Service Endorsement

EDUCATION AND TRAINING CLUSTER

5360 PRINCIPLES OF EDUCATION AND TRAINING

Grades: 9 - 11
Credits: 1
Prerequisites: None

This course will serve as a foundation for students interested in teaching fields ranging from preschool to high school. Students will explore the various roles and responsibilities of schools and describe typical personal characteristics, qualities and aptitudes of education professionals. Student will also investigate post secondary options.

5370 CHILD DEVELOPMENT

Grade: 9 - 12
Credit: 1
Prerequisite: None
Recommended – Principles of Education and Training

This course is designed to study human growth and development from newborns through school-age children. Emphasis will be on current trends and studies in child behaviors guidance and childcare for optimal family management. Students will analyze these topics to promote the well-being and healthy development of children.

5380 READY SET TEACH I: INSTRUCTIONAL PRACTICES

Grade: 11 - 12
Credit: 2
Prerequisite: Principles of Education and Training or Child Development. Student Information Sheet required

This course allows an opportunity for field-based internship that provides students with knowledge of child and adolescent development as well as principles of effective teaching practices. Students work under the joint direction of their classroom teacher and a mentoring teacher of their choice. Students will plan instructional activities and lessons as well as understand the responsibilities of teachers and all careers related to the Education field.

5385 READY SET TEACH II: PRACTICUM IN EDUCATION AND TRAINING

Grade: 12
Credit: 2
Prerequisite: Instructional Practices in Education and Training I (Ready, Set Teach I) Student Information Sheet required

This course is designed for the student who demonstrated success in Teacher Education Training I. Students will be more intensely immersed in the educational process by job-shadowing their mentoring teacher in all aspects of the teaching profession. All careers in education will be explored in depth. Students will have the opportunity to earn the Region IV Substitute Training Certificate.

Students who:

- **Take the practicum courses in the Education and Training Cluster**
- **Graduate from college as an Education Major with a passing GPA**

Will be guaranteed an interview in Friendswood ISD upon college graduation. This will not guarantee a job, only an interview.

5008 PROJECT BASED RESEARCH

Grade: 11-12
Credit: 1
Prerequisite: None

Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

5090 CAREER PREPARATION I

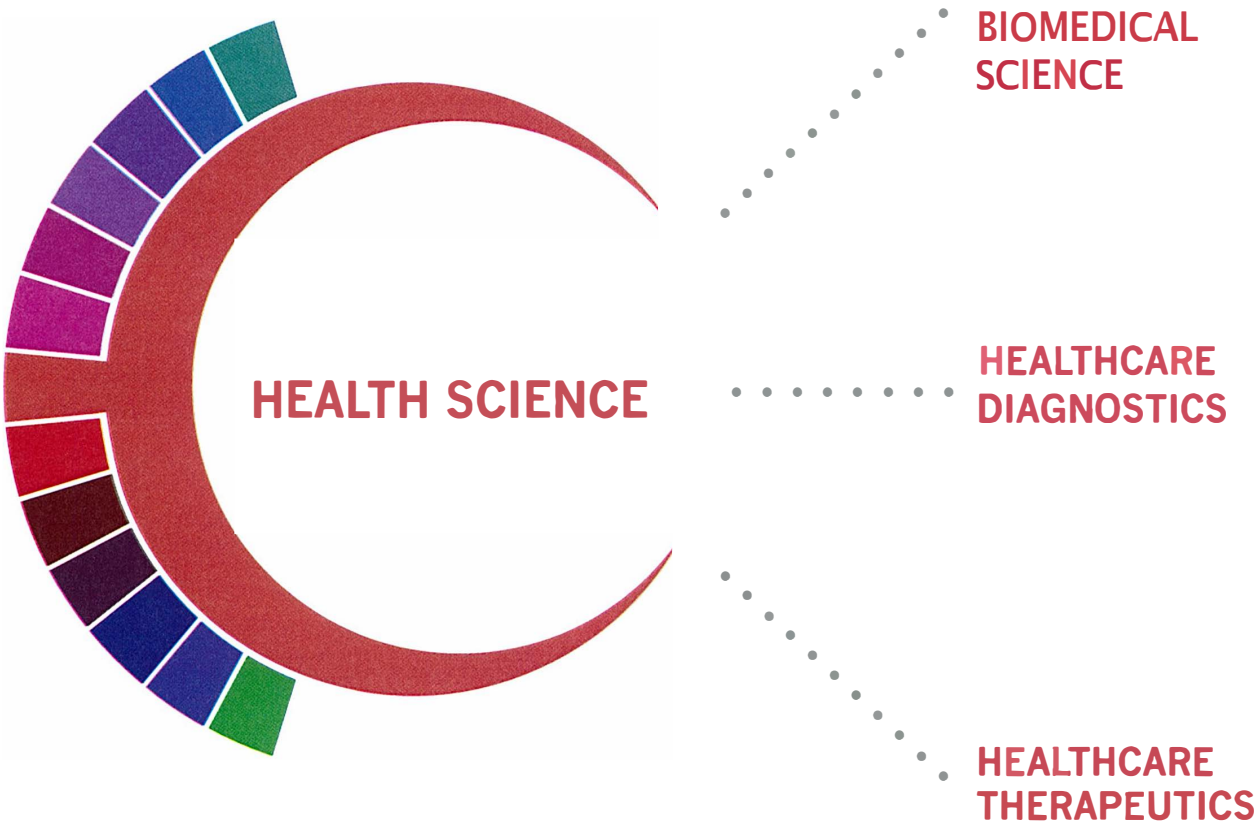
Grade: 11-12
Credit: 2
Prerequisite: None

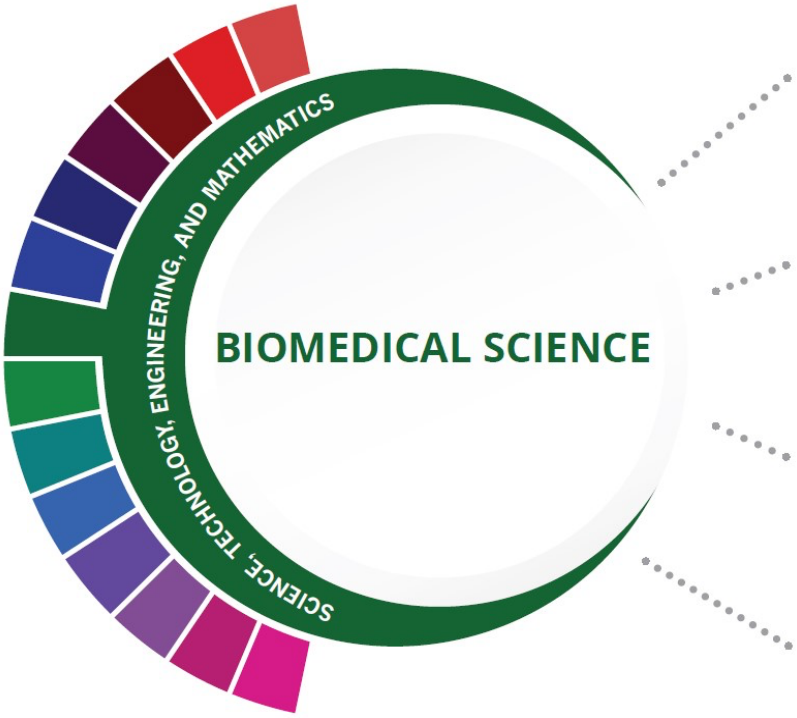
Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5091 CAREER PREPARATION I / EXTENDED CAREER PREPARATION

Grade: 11-12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.


HEALTH SCIENCE
BIOMEDICAL SCIENCE
HEALTHCARE DIAGNOSTICS
HEALTHCARE THERAPEUTICS



Level 1	Principles of Biomedical Science (PLTW)
Level 2	Human Body Systems (PLTW)
Level 3	Medical Interventions (PLTW)
Level 4	Biomedical Innovation (PLTW) Practicum in Science, Technology, Engineering and Mathematics ISM - Scientific Research and Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Medical Laboratory Assistant	Medical and Clinical Laboratory Technologists	Histologic Technician	Biomedical Engineers	Genetic Counseling
Medical Laboratory Technician		Clinical Laboratory Science/ Medical Technology/ Technologist	Biomedical Engineers	Medical Scientists
FHS – COVID-19 Contact Tracing Certification John Hopkins University			Clinical Laboratory Science/ Medical Technology/ Technologist	Epidemiology

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Medical and Laboratory Technicians	$37,981	1,159	28%
Biological Technicians	$42,931	452	17%
Forensic Science Technicians	$48,152	171	35%
Chemical Technicians	$49,733	672	10%
Medical and Clinical Laboratory Technologists	$58,760	1,166	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Health Occupations Students of America (HOSA)	Lab internship or shadow a healthcare or medical professional

The Biomedical Science program of study focuses on the study of biology and medicine in order to introduce CTE learners to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing diseases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Biomedical Science program of study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met.

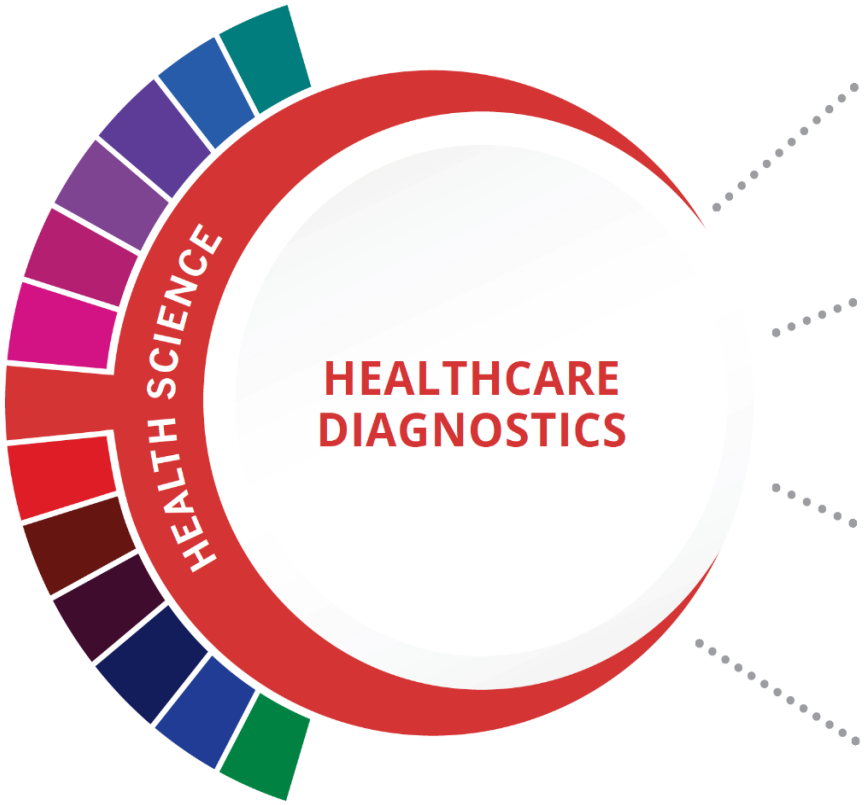
Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5410W Principles of Biomedical Science (PLTW - PBS)	N1302092 (1 credit)	None	9-11
5425W Human Body Systems (PLTW - HBS) May count as science credit	13020600 (1 credit)	PREQ: Biology and completed/concurrent Chemistry; Recommended PREQ: 1 course from Health Science or Biomedical	10-12
5415W Medical Interventions (PLTW - MI) May count as science credit	13020800 (1 credit)	PREQ: Biology, Chemistry; Principles of Biomed or Human Body Systems	11-12
5440W Biomedical Innovation (PLTW - BI)	N1302095 (1 credit)	PREQ: Principles of Biomed or Human Body Systems and Medical Interventions	12
0030 ISM - Scientific Research and Design	13037200 (1 credit)	PREQ: Biology, Chemistry, IPC, or Physics	11-12
5085 Practicum in STEM	13037400 (2 credits)	PREQ: Algebra I and Geometry Recommended PREQ: 1 course in Biomedical Science	12

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS
BIOMEDICAL SCIENCE



Level 1	Medical Terminology
Level 2	Principles of Health Science Human Body Systems
Level 3	Health Science Theory Health Sci. Theory/Clinical Medical interventions
Level 4	Practicum in Health Science – CCMA Practicum in Health Science – EMT

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Limited Licensed Radiology Technologist	Medical Sonographer	Nuclear Medical Technology/ Technologist	Nuclear Medical Technology/ Technologist	Radiologist
FHS EKG/ECG Technician	Radiologic Technologist	Magnetic Resonance Imaging (MRI) Technology/ Technician	Medical Radiologic Technology/ Science Radiation Therapist	Radiologic Technology/ Science - Radiographer
Medical Laboratory Technician				
FHS Phlebotomy Technician				

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Diagnostic Medical Sonographers	$69,909	495	35%
Phlebotomists	$30,597	1442	36%
Nuclear Medicine Technologists	$75,962	91	13%
Radiologic Technologists	$55,494	1196	19%
Magnetic Resonance Imagine Technologists	$68,661	217	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Health Occupation Students of America (HOSA)	Clinical rotations at a community wellness center, hospital, assisted living, nursing home

The Healthcare Diagnostics program of study introduces students to occupations and education opportunities related to performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with blood laboratories as well as radiologic technology and ultrasound technology.

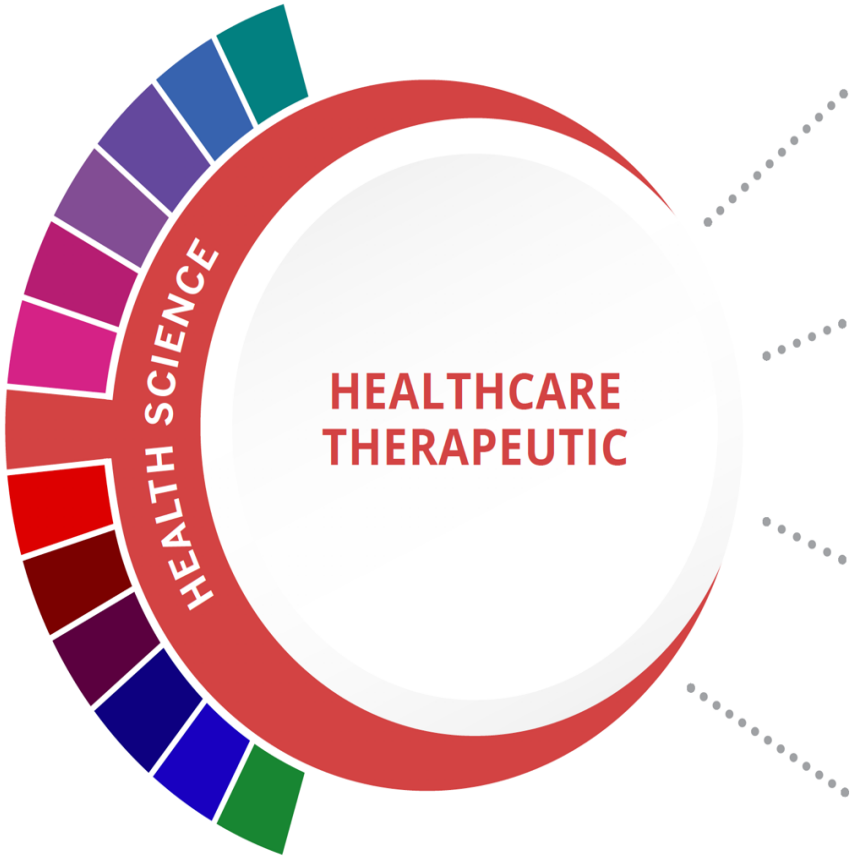
The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

Successful completion of the Healthcare Diagnostics program of study will fulfill requirements of the Public Service or STEM Endorsement if the math and science requirements are met. Revised- July 2020

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
4845 Medical Terminology	13020300 (1 credit)	None	9-12
5430 Principles of Health Science (satisfies 0.5 Health Credit)	13020200 (1 credit)	None	10-12
5431 Health Science Theory 5450 Health Science Theory/Clinical	13020400 (1 credit) 13020410 (2 credits)	PREQ: Biology	11-12
5425W Human Body Systems	13020600 (1 credit)	PREQ: Biology and completed/concurrent Chemistry; Recommended PREQ: 1 course from Health Science or Biomedical	10-12
5415W Medical Interventions	13020800 (1 credit)	PREQ: Biology, Chemistry; Principles of Biomed or Human Body Systems	11-12
Practicum in Health Science 5435 CCMA 5434 EMT (Dual Credit)	13020500 (2 credits) 13020510 (2 credits)	PREQ: Health Science Theory and Biology	12

HEALTH SCIENCE CAREER CLUSTER
HEALTHCARE DIAGNOSTICS



Level 1	Medical Terminology
Level 2	Principles of Health Science Human Body Systems
Level 3	Health Science Theory Health Sci. Theory/Clinical Medical Interventions
Level 4	Practicum in Health Science – CCMA Practicum in Health Science – EMT

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental Hygienist	Dental Hygienist	Dentist
FHS Certified Patient Care Technician	Surgical Technologist	Medical/ Clinical Assistant		Physician Assistant
FHS Certified Clinical Medical Assistance	Medical Assistant			Family and General Practitioners
FHS Emergency Medical Technician	Pharmacy Aides			Pharmacist

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Medical Assistants	$29,598	8,862	30%
Surgical Technologists	$45,032	1,150	20%
Dental Hygienists	$73,507	1,353	38%
Physicians and Surgeons	$213,071	1,151	30%
Dental Assistants	$34,840	4,422	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
SkillsUSA Health Occupation Students of America (HOSA)	Volunteer at a community wellness center, hospital, assisted living, or nursing home.

The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a Public Service endorsement or STEM endorsement if the math and science requirements are met. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
4845 Medical Terminology	13020300 (1 credit)	None	9-12
5430 Principles of Health Science (satisfies 0.5 Health Credit)	13020200 (1 credit)	None	10-12
5431 Health Science Theory 5450 Health Science Theory/Clinical	13020400 (1 credit) 13020410 (2 credits)	PREQ: Biology	11-12
5425W Human Body Systems	13020600 (1 credit)	PREQ: Biology and completed/concurrent Chemistry; Recommended PREQ: 1 course from Health Science or Biomedical	10-12
5415W Medical Interventions	13020800 (1 credit)	PREQ: Biology, Chemistry; Principles of Biomed or Human Body Systems	11-12
Practicum in Health Science 5435 CCMA 5434 EMT (Dual Credit)	13020500 (2 credits) 13020510 (2 credits)	PREQ: Health Science Theory and Biology	12

HEALTH SCIENCE CAREER CLUSTER
HEALTHCARE THERAPEUTICS

Career & Technical Education Electives

Courses in this cluster will count toward the

Public Service Endorsement

HEALTH SCIENCE CAREER CLUSTER

BIOMEDICAL SCIENCE

Courses count toward Public Service or STEM Endorsement if math and science requirements are met.

5410W PRINCIPLES OF BIOMEDICAL SCIENCE, WEIGHTED COURSE

Grade: 9 - 11
Credit: I
Prerequisite: None

In the Principles of Biomedical Science (PBS) course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems. From design and data analysis to outbreaks, clinical empathy, health promotion, and more, students explore the vast range of careers in biomedical sciences. They develop not just technical skills, but also in-demand, transportable skills that they need to thrive in life and career.

5425W HUMAN BODY SYSTEMS, WEIGHTED COURSE

Grade: 10 - 12
Credit: I
Prerequisite: Biology & completed or concurrent enrollment in Chemistry;
Recommended: 1 course from Health Science/Biomedical Pathway
This course may count as a science credit

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. In this project-based course, students design experiments, investigate the structures and the functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries.

5415W MEDICAL INTERVENTIONS, WEIGHTED COURSE

Grade: 11 - 12
Credit: I
Prerequisite: Biology & Chemistry; Principles of Biomedical Science or Human Body Systems
This course may count as a science credit

Medical Interventions (Ml) allows students to investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. A "How To" manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices and diagnostics.

5440W BIOMEDICAL INNOVATION, WEIGHTED COURSE

Grade: 12
Credit: 1
Prerequisite: Principles of Biomedical Science or Human Body Systems and Medical Intervention

In this capstone course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community.

0030 ISM - SCIENTIFIC RESEARCH AND DESIGN

Grade: 11-12
Credit: 1
Prerequisite: Biology, IPC, Chemistry, or Physics

This Scientific Research and Design course known as ISM allows academically advanced junior, and senior learners an opportunity to conduct career and science research investigations through an independent study mentorship. Students conducts empirical research under the guidance of a teacher facilitator and mentor. The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals. These components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.
Learners must be self-motivated and have transportation to visit off-campus mentors.

5085 PRACTICUM IN STEM

Grade: 12
Credit: 2
Prerequisite: Algebra I and Geometry
Recommended: At least one course from the STEM Programs of Study

Practicum in STEM is designed to give students supervised hands-on, real world practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations in Science, Technology, Engineering or Math appropriate to the nature and level of experience. This practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Science, Technology, Engineering, and Mathematics (STEM) Career Cluster

AP + PLTW : Preparing Students for College and Careers

To help prepare all students for the global workforce, the College Board and Project Lead The Way (PLTW) have partnered on a program to encourage student participation in science, technology, engineering, and math (STEM) courses and build their interest in STEM degrees and careers. The program leverages the success of the College Board's Advanced Placement Program (AP) and Project Lead The Way's applied learning programs.
The program has three elements:

- College and career pathways that connect AP and PLTW courses
- Recognition for students who participate in the pathways, and recognition for schools
- A portfolio of career-focused opportunities for students

Explore the Pathway Menu

Level	Biomedical Science
College - AP Courses	**AP Biology** **AP Chemistry**
Career - PLTW Courses	**Principles of Biomedical Science** **Human Body Systems** **Medical Interventions**

Student Recognition
Students who complete the requirements of their chosen pathway earn the **AP + PLTW student recognition**, a qualification that demonstrates to colleges and employers that the student is ready for advanced course work and interested in careers in this discipline.

To earn the recognition, the student must satisfactorily complete three courses in the pathway – one AP course; one PLTW course; and a third course, either AP or PLTW – and earn a qualifying score of 3 or higher on the AP Exam(s) and a score of Proficient or higher on the PLTW End of Course (EoC) assessment(s).

HEALTHCARE DIAGNOSTICS AND THERAPEUTICS

4845 MEDICAL TERMINOLOGY

Grades: 9 - 12
Credit: 1
Prerequisite: None

A course designed to develop a working knowledge of the language of medicine. Learners acquire word-building skills by learning prefixes, suffixes, roots, combining forms, and singular and plural forms, plus medical abbreviations and acronyms. This course allows learners to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology and patho- physiology. By relating terms to body systems, learners 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.

5430 PRINCIPLES OF HEALTH SCIENCE

Grades: 10 - 12
Credit: 1
Prerequisite: None
This course will satisfy the .5 credit of Health, which is required for graduation.

This course provides an introduction to the therapeutic, diagnostic, health informatics, support services and biotechnology research and development systems of the Healthcare Industry. Learners will be given the opportunity for advancement of knowledge and skills related to a variety of health careers. Learners will have hands-on experiences to develop skills in the health field. This course includes the study of medical terminology, ethics, legal issues, anatomy & physiology, disease processes, critical attributes of patient relationships, and management of patient care.
This course is recommended for anyone interested in a healthcare career.

5425W HUMAN BODY SYSTEMS, WEIGHTED COURSE

Grade: 10 - 12
Credit: 1
Prerequisite: Biology & completed or concurrent enrollment in Chemistr;
Recommended: 1 course from Health Science/Biomedical Pathway
This course may count as a science credit

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. In this project-based course, students design experiments, investigate the structures and the functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries.

5415W MEDICAL INTERVENTIONS, WEIGHTED COURSE

Grade: 11 - 12
Credit: I
Prerequisite: Biology & Chemistry; Principles of Biomedical Science or Human Body Systems
This course may count as a science credit

Medical Interventions (Ml) allows students to investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. A "How To" manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices and diagnostics.

5431 HEALTH SCIENCE THEORY

Grades: 11 - 12
Credit: 1
Prerequisite: Biology

This course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers in the classroom setting. Learners will experience all aspects of patient care in the FHS simulation lab.
Possible certification offered: Certified Patient Care Technician.
Fee's may apply

5450 HEALTH SCIENCE THEORY/CLINICAL

Grades: 11 - 12
Credit: 2
Prerequisite: Biology, Student Information Sheet and interview required
Must provide own transportation

This course is designed to allow learners practical application of previously studied knowledge and skills. Learners will explore a variety of health careers by shadowing health care professionals in many different settings. Clinical opportunities include options like rotations through physical therapy, radiology, nursing care, pharmacy, emergency medicine, nursery, intensive care and laboratory. The course involves clinical experience under the supervision of the coordinator and health care personnel and classroom experience. Learners should recognize that quality health care depends on the ability to work well with others. Learners will have intimate knowledge of their patients and therefore will become very familiar with the legal and ethical aspects of health care and the private laws that govern it. Learners interested must have reliable transportation to and from local facilities.
Possible certification offered will be Patient Care Technician
Fee's may apply

5435 PRACTICUM IN HEALTH SCIENCE - CCMA

Grade: 12
Credit: 2
Prerequisite: Biology, & Health Science Theory or Health Science Theory/Clinical
Student Information Sheet and interview required
Must provide own transportation

This course is designed as an occupationally specific course to provide knowledge and skills toward certification and/or license in an allied health career. Learners develop advanced clinical skills necessary for employment in the healthcare industry or continued education in health careers.
Possible certification offered will be Certified Medical Assistant Certification (CCMA)
Fee's may apply

5434W DUAL CREDIT PRACTICUM IN HEALTH SCIENCE - EMT (COLLEGE CREDIT)

Grade Placement: 12
Credit: 2
Prerequisites: Health Science Theory or Health Science Theory/Clinical and Biology; Qualifying TSI Score
Student Information Sheet and interview required
Must provide own transportation

This course is designed as an occupationally specific course to provide knowledge and skills toward certification and/or license in an allied health career. Learners develop advanced clinical skills necessary for employment in the healthcare industry or continued education in health careers. Includes 24 contact hours of Emergency Room time and 64 contact hours of ambulance ride along.
Possible certification offered will be Emergency Medical Technician (EMT).

College of the Mainland equivalent courses:. EMSP-1501 and EMSP-1260
Learners will be responsible for registration with College of the Mainland and any additional book fees.

LAW AND PUBLIC SERVICE

LAW ENFORCEMENT

EMERGENCY SERVICES

LEGAL STUDIES

TEA
Texas Education Agency

Level 1	Principles of Law, Public Safety, Corrections, and Security
Level 2	Criminal Justice - Law Enforcement
Level 3	Criminal Investigation
Level 4	Forensic Science Practicum in Law, Public Safety Corrections, and Security

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Non-Commissioned Security Officer Level II	Law Enforcement Officer	Criminal Justice/Safety Studies/Law Enforcement Administration	Criminal Justice/Safety Studies/Law Enforcement Administration	Criminal Justice/Safety Studies/Law Enforcement Administration
Emergency Telecommunicator	Private Investigator/ Security Guard	Criminal Justice/ Police Science	Criminal Justice/ Police Science	Natural Resources Law Enforcement and Protective Services
	Code Enforcement Officer	Corrections	Juvenile Corrections	
	Certified Law Enforcement Planner	Criminalistics and Criminal Science	Cyber/ Computer Forensics and Counterterrorism	

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Police and Sheriff's Patrol Officers	$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	$44,054	793	9%
Correctional Officers and Jailers	$40,186	4,683	9%
Immigration and Customs Inspectors	$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	$91,312	253	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
SkillsUSA	Attend court hearings and other legal procedures

The Law Enforcement program of study teaches CTE learners about the development of, adherence to, and protection of various branches of law. Students will learn how to appropriately and legally respond to breaches in the law according to statutory rules and regulations as well as investigate how and why the breaches occurred.

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

Successful completion of the Law and Public Service program of study will fulfill requirements of the Public Service Endorsement. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5700 Principles of Law, Public Safety, Corrections, and Security	13029200 (1 credit)	None	9-11
5705 Criminal Justice Law Enforcement	13029300 (1 credit)	Recommended PREQ: Principles of Law	10-12
5745 Criminal Investigation	13029550 (1 credit)	Recommended PREQ: Principles of Law	10-12
4140 Forensic Science	13029500 (1 credit)	PREQ: Biology, Chemistry, and IPC, Tech Princ, or Physics Recommended PREQ: Alg II and 1 Law course	12
5740 Practicum in Law, Public Safety, Corrections, and Security	13030100 (2 credits)	Recommended PREQ: Principles of Law and 2 additional law courses	11-12

LAW AND PUBLIC SERVICE CAREER CLUSTER
LAW ENFORCEMENT

Level 1	Principles of Law, Public Safety, Corrections, and Security
Level 2	Human Body Systems (PLTW)
Level 3	Project-Based Research Practicum in Law, Public Safety, Corrections, and Security
Level 4	Emergency Medical Technician – Basic

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FHS – Emergency Medical Technician - Basic	Emergency Medical Technician – Basic	Emergency Medical Technology/ Technician (EMT Paramedic)	Emergency Medical Technology/ Technician (EMT Paramedic)	
Emergency Telecommunicator	Fire Protection Personnel/ Firefighter	Fire Prevention and Safety Technology/ Technician	Natural Resources Law Enforcement and Protective Services	
Basic Structure Fire Protection Certification	Fire Protection System Contractor	Fire Science/ Firefighting		
	Fire Inspector			

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Firefighters	$50,149	2,309	13%
Fire Inspectors and Investigators	$54,787	161	14%
Emergency Medical Technicians	$34,091	1,880	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
SkillsUSA HOSA	Volunteer at a hospital or a fire station

The Emergency Services program of study focuses on training CTE learners to respond to emergency situations, such as medical emergencies and fire-based emergencies. Students will learn how to prevent emergencies, respond appropriately and in accordance with rules and regulations during crises, and investigate and delineate the source of the emergency.

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services.

Successful completion of the Emergency Services program of study will fulfill requirements of the Public Service Endorsement. Revised – July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5700 Principles of Law, Public Safety, Corrections, and Security	13029200 (1 credit)	None	9-11
5425W Human Body Systems (PLTW – HBS)	13020600 (1 credit)	PREQ: Biology CREQ: Chemistry Recommended PREQ: 1 course from Health Science or Biomedical Science	10-12
5008 Project-Based Research	12701500 (1 credit)	None	11-12
5740 Practicum in Law, Public Safety, Corrections, and Security	13030100 (2 credits)	Recommended PREQ: Principles of Law and 2 additional law courses	11-12
5405W Emergency Medical Technician – Basic Dual Credit	N1303015 (2 credits)	PREQ: Biology Recommended PREQ: Principles of Law and Human Body Systems	12

LAW AND PUBLIC SERVICE CAREER CLUSTER
EMERGENCY SERVICES

Level 1	Principles of Law, Public Safety, Corrections, and Security
Level 2	Court Systems and
Level 3	Business Law
Level 4	Practicum in Law, Public Safety, Corrections, and Security Project-Based Research Career Preparation I

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	Attorney	Legal Assistant/ Paralegal	Legal Assistant/ Paralegal	Law
	Certified Paralegal			Intellectual Property Law
	Board Certification in Types of Law			Advanced Legal Research/ Studies, General
	Certified Legal Video Specialist			International Law and Legal Studies

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Lawyers	$126,131	2,801	19%
Paralegal and Legal Assistants	$50,544	2,837	19%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
SkillsUSA	Intern with a local attorney; script and conduct a mock trial

The Legal Studies program of study introduces CTE learners to the occupations and educational opportunities related to representing clients in criminal and civil litigation and other legal proceedings, as well as assisting lawyers and preparing legal documents. This program of study explores possible specializations in a single area of law.

The Law and Public Service Career Cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and fire and emergency services.

Successful completion of the Legal Studies program of study will fulfill requirements of the Public Service Endorsement. Revised - July 2020

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5700 Principles of Law, Public Safety, Corrections, and Security	13029200 (1 credit)	None	9-11
5715 Court Systems and Practices	13029600 (1 credit)	Recommended PREQ: Principles of Law	10-12
5067 Business Law	13011700 (1 credit)	Recommended PREQ: Principles of Law or Principles of Business	11-12
5740 Practicum in Law, Public Safety, Corrections, and Security	13030100 (2 credits)	Recommended PREQ: Principles of Law and 2 other law classes	11-12
5008 Project-Based Research	12701500 (1 credit)	None	11-12
5090 Career Preparation I 5091 Career Preparation I/Ext	12701300 (2 credits) 12701305 (3 credits)	None	11-12

LAW AND PUBLIC SERVICE CAREER CLUSTER
LEGAL STUDIES

Career & Technical Education Electives

Courses in this cluster will count toward the

Public Service Endorsement

LAW AND PUBLIC SERVICE

5700 PRINCIPLES OF LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

Grades: 9 - 11
Credit: 1
Prerequisite: None

This course provides an overview of professionals in law enforcement, security, corrections and emergency management for students interested in careers or further study. Students will examine the roles and responsibilities of people throughout the criminal justice system, as well as emergency services such as fire fighting and emergency medical services. A highlight is a mock trial that incorporates all of the above fields studied in the course.

5705 CRIMINAL JUSTICE - LAW ENFORCEMENT

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Law, Public Safety, Corrections & Security

This course focuses on the police function and the court system in criminal cases. Topics include police skills and techniques, criminal investigations, crime scene investigations, The Penal Code and Code of Criminal Procedure, the relationship between the police and society, the role of the police in criminal trials, the prosecution of criminal cases, the criminal court system.

5745 CRIMINAL INVESTIGATION

Grades: 10 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Law, Public Safety, Corrections & Security and/or Criminal Justice - Law Enforcement

Student focus on the process and skills needed to conduct a thorough, lawful criminal investigation. Areas studied include crime scene search and analysis, witness interviewing, surveillance, special investigative techniques such as wiretaps, writing reports, search warrants, arrests, and appearance at trial. Skills acquired include fingerprint collection, blood spatter analysis, and developing a suspect profile.

5715 COURT SYSTEMS AND PRACTICES

Grades: 10 - 12
Credit: 1
Prerequisites: None
Recommended: Principles of Law, Public Safety, Corrections & Security

This course is a close look at the career fields that support the U.S. legal system, including lawyers, judges, court reporters, administrative clerks, bail bondsmen, court security officers, evidence custodians, and others. We examine the Federal and Texas courts systems, and strive to understand the importance of the rule of law in a freer society.

5067 BUSINESS LAW

Grades: 11 - 12
Credit: 1
Prerequisite: None
Recommended: Principles of Business, Marketing & Finance and/or Principles of Law, Public Safety, Corrections & Security

Students learn the foundation of legal matters related to business law and personal law. Areas of study include how laws were formed, procedures in civil and criminal cases, making and terminating contracts, responsibilities of minors, being a consumer, purchasing power, personal and real property rights, starting a business and leadership skills. Instruction methods will include: projects, student debates, case studies, and lecture and class discussion. Students will use various office applications in working on assignment and projects.

5740 PRACTICUM IN LAW AND PUBLIC SAFETY

Grades: 11 - 12
Credit: 2
Prerequisites: None
Recommended: Principles of Law, Safety, Corrections & Security and 2 additional Law courses

Students gain real-world experience through paid or unpaid work based learning with law enforcement agencies, local courts, local government agencies, private companies, and attorneys.

4140 FORENSIC SCIENCE

Grade: 12
Credit: 1
Prerequisite: Biology, Chemistry, either IPC or Physics or Tech Principles
Recommended: Algebra II and 1 course from Law & Public Service

Forensic Science is a course that uses a structured and scientific approach to the investigation of crimes of assault, abuse and neglect, domestic violence, accidental death, homicide, and the psychology of criminal behavior. Students will learn terminology and investigative procedures related to crime scene, questioning, interviewing, criminal behavior characteristics, truth detection, and scientific procedures used to solve crimes. Using scientific methods, students will collect and analyze evidence through case studies and simulated crime science such as fingerprint analysis, ballistics, blood splatter analysis and DNA analysis. Students will learn the history, legal aspects, and career options for Forensic Science.

5425W HUMAN BODY SYSTEMS, WEIGHTED COURSE

Grade: 10 - 12
Credit: I
Prerequisite: Biology & completed or concurrent enrollment in Chemistry
Recommended: 1 course from Health Science/Biomedical Pathway
This course may count as a science credit

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. In this project-based course, students design experiments, investigate the structures and the functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries.

5405W DUAL CREDIT EMERGENCY MEDICAL TECHNICIAN BASIC

Grade: 12
Credit: 2
Prerequisite: Biology
Recommended: Principles of Law and Human Body Systems

Emergency Medical Technician (EMT)—Basic instructs students to meet and exceed standard knowledge needed to be a competent Emergency Medical Technician. The curriculum includes skills necessary for a student to provide entry level emergency medical care, life support, and ambulance service. The EMT—Basic course is an introductory course to concepts, knowledge, and skills needed by EMTs in the areas of communications, transportation, and recordkeeping. Students interested in working in public safety, including fire, police, and ambulance operators will be capable of performing the job expectations of an EMT safely and effectively after the completion of this course. Includes 24 contact hours of Emergency Room time and 64 contact hours of ambulance ride along.

College of the Mainland equivalent courses: EMSP-1501 and EMSP-1260
Learners will be responsible for registration with College of the Mainland and any additional book fees.

5008 PROJECT BASED RESEARCH

Grade: 11-12
Credit: 1
Prerequisite: None

Project-Based Research is a course for students to research a real-world problem. Students are matched with a mentor from the business or professional community to develop an original project on a topic related to career interests. Students use scientific methods of investigation to conduct in-depth research, compile findings, and present their findings to an audience that includes experts in the field. To attain academic success, students must have opportunities to learn, reinforce, apply, and transfer their knowledge and skills in a variety of settings.

5090 CAREER PREPARATION I

Grade: 11-12
Credit: 2
Prerequisite: None

Career Preparation I provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

5091 CAREER PREPARATION I / EXTENDED CAREER PREPARATION

Grade: 11-12
Credit: 3
Prerequisite: Successful completion of one or more advanced career and technical education courses that are part of a coherent sequence of courses in a Career Cluster related to the field in which the student will be employed.

Extended Career Preparation provides a 3 credit opportunity for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.

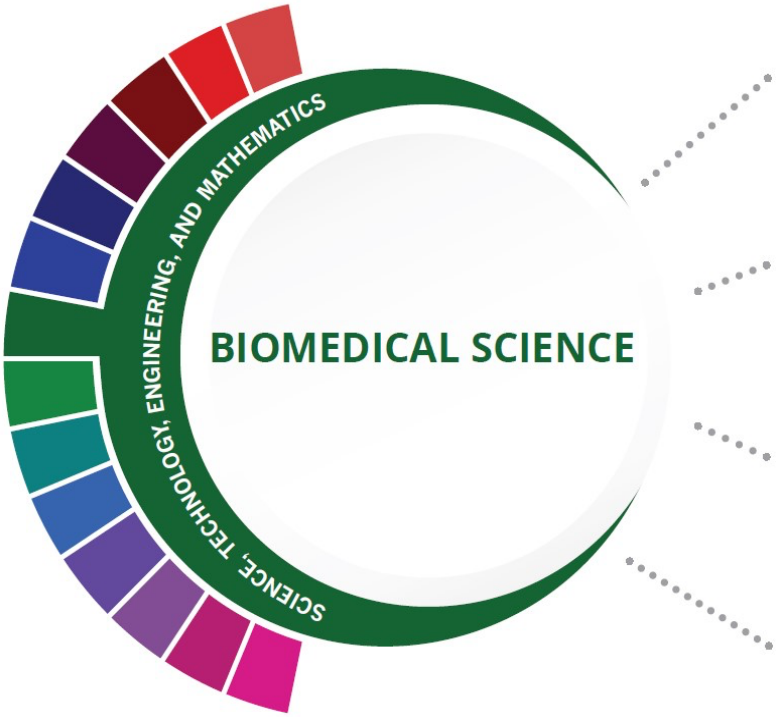
BIOMEDICAL SCIENCE

CYBERSECURITY

ENGINEERING

PROGRAMMING AND SOFTWARE DEVELOPMENT

TEA
Texas Education Agency



Level 1	Principles of Biomedical Science (PLTW)
Level 2	Human Body Systems (PLTW)
Level 3	Medical Interventions (PLTW)
Level 4	Biomedical Innovation (PLTW) Practicum in Science, Technology, Engineering and Mathematics ISM - Scientific Research and Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Medical Laboratory Assistant	Medical and Clinical Laboratory Technologists	Histologic Technician	Biomedical Engineers	Genetic Counseling
Medical Laboratory Technician		Clinical Laboratory Science/ Medical Technology/ Technologist	Biomedical Engineers	Medical Scientists
FHS – COVID-19 Contact Tracing Certification John Hopkins University			Clinical Laboratory Science/ Medical Technology/ Technologist	Epidemiology

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Medical and Laboratory Technicians	$37,981	1,159	28%
Biological Technicians	$42,931	452	17%
Forensic Science Technicians	$48,152	171	35%
Chemical Technicians	$49,733	672	10%
Medical and Clinical Laboratory Technologists	$58,760	1,166	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Health Occupations Students of America (HOSA)	Lab internship or shadow a healthcare or medical professional

The Biomedical Science program of study focuses on the study of biology and medicine in order to introduce CTE learners to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing diseases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Biomedical Science program of study will fulfill requirements of the Public Service or STEM endorsement if the math and science requirements are met.

Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5410W Principles of Biomedical Science (PLTW - PBS)	N1302092 (1 credit)	None	9-11
5425W Human Body Systems (PLTW - HBS) May count as science credit	13020600 (1 credit)	PREQ: Biology and completed/concurrent Chemistry; Recommended PREQ: 1 course from Health Science or Biomedical	10-12
5415W Medical Interventions (PLTW - MI) May count as science credit	13020800 (1 credit)	PREQ: Biology, Chemistry; Principles of Biomed or Human Body Systems	11-12
5440W Biomedical Innovation (PLTW - BI)	N1302095 (1 credit)	PREQ: Principles of Biomed or Human Body Systems and Medical Interventions	12
0030 ISM - Scientific Research and Design	13037200 (1 credit)	PREQ: Biology, Chemistry, IPC, or Physics	11-12
5085 Practicum in STEM	13037400 (2 credits)	PREQ: Algebra I and Geometry Recommended PREQ: 1 course in Biomedical Science	12

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS
BIOMEDICAL SCIENCE

Level 1	Foundations of Cybersecurity
Level 2	Computer Science I AP Computer Science Principles
Level 3	Networking Digital Forensics AP Computer Science A-Math/LOTE
Level 4	Practicum in STEM Independent Study in Evolving/Emerging Technologies ISM – Computer Science I and II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	GIAC Reverse Engineering Malware	System Networking, and LAN/WAN Management	Computer Systems Networking and Telecommunications	Computer Systems Analysis/Analyst
Oracle Certified Database Associate	Certified Advanced Windows Forensic Examiner	Information Technology	Computer Systems Networking and Telecommunications	Information Technology
Cisco Certified Entry Networking Technician (CCENT)	SAP Certified Technology Professional System Security Architect	Computer and Information Sciences, General	Computer and Information Sciences, General	Computer and Information Sciences, General
CompTIA A+, Network+, Security+, and IT Fundamentals	Cisco Certified Network Professional Security Certification	Computer Science	Computer Science	Computer Science

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Information Security Analysts	$91,915	814	29%
Network and Computer System Administrators	$82,597	2,814	19%
Computer System Analysts	$87,568	5,937	29%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Compete in Cyber Patriots Job Shadow a computer system analyst or information security analyst.	Obtain an industry based certification.

The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

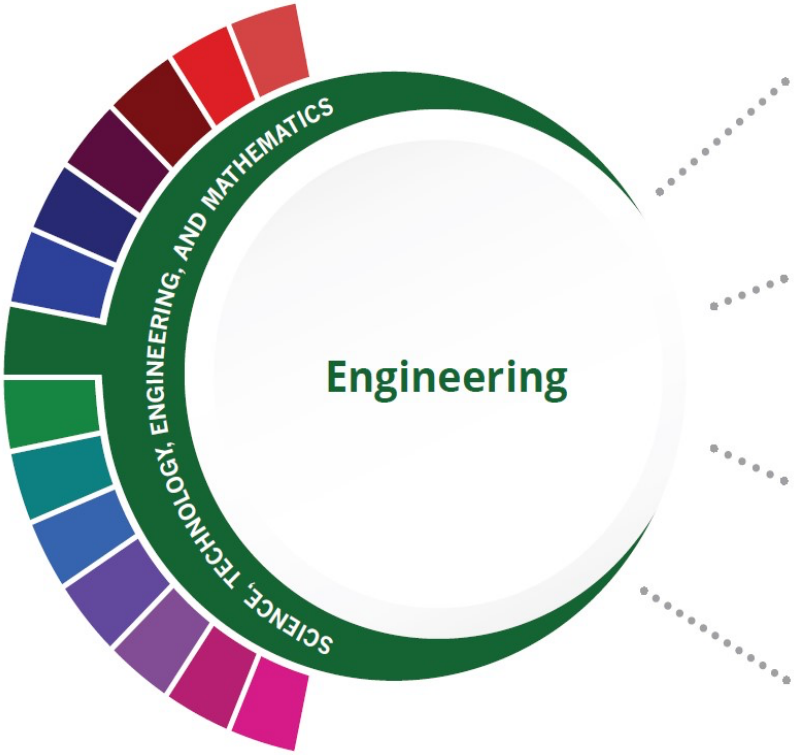
Successful completion of the Cybersecurity program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5204 Foundations of Cybersecurity	03580850 (1 credit)	None	9-12
0500 Computer Science I	03580200 (.5 to 1 credits)	PREQ: Algebra I	9-12
0515 Networking	13027400 (1 credit)	None	10-12
5203 Digital Forensics	03580360 (1 credit)	PREQ: Geometry and Computer Science I	11-12
0505 AP Computer Science Principles May count as world language credit	A3580300	PREQ: Geometry	9-12
0510 AP Computer Science MATH/LOTE May count as math and world language credit	A3580110 (1 credit) A3580120 (1 credit)	PREQ: Algebra II and Computer Science II	10-12
5085 Practicum in Science, Technology, Engineering and Mathematics	13037400 (2 credits)	PREQ: Algebra I and Geometry Recommended PREQ: 1 course from Cybersecurity	12
0610/0612 Independent Study in Evolving/Emerging Technologies I and II	03581500 (1 credit) 03581600 (1 credit)	PREQ: Computer Science I and Algebra II	10-12
0630 ISM Computer Science I 0640 ISM Computer Science II	N1290309 (1 credit) N1290313 (1 credit)	PREQ: AP Computer Science PREQ: ISM Computer Science I	11-12 12

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER
CYBERSECURITY



Level 1	Introduction to Engineering Design (PLTW) Robotics I
Level 2	Civil Engineering and Architecture (PLTW) Engineering Science (PLTW) SystemsGo Rocketry
Level 3	Aerospace Engineering (PLTW) Digital Electronics (PLTW)
Level 4	Engineering and Design and Development (PLTW) Practicum in STEM ISM - Scientific Research and Design

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU)-Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/ Technician, General	CAD/CADD Drafting and/or Design Technology/ Technician	Mechanical Engineering
Certified Engineering Technician-Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/ Analyst		Construction Engineering Technology/ Technician	

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	$110,843	481	9%
Industrial Engineers	$97,074	1,263	10%
Mechanical Engineers	$91,107	1,535	11%
Chemical Engineers	$112,819	474	9%
Electrical Engineers	$98,405	1,137	10%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Participate in competitions like Skills USA, FIRST Tech Challenge (Robotics)	Engineering internship Job shadow a machinist

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

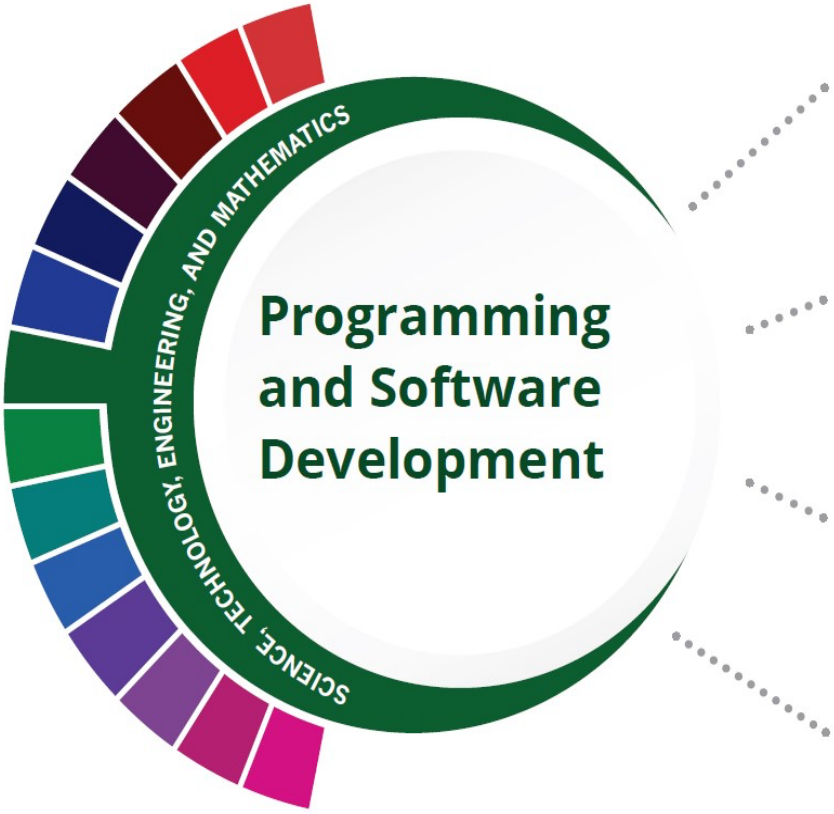
Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
5270 W Introduction to Engineering Design (PLTW - IED)	N1303742 (1 credit)	None	9-12
5272 Robotics I	1303700 (1 credit)	None	9-12
4900 W Engineering Science (PLTW - ES)	13037500 (1 credit)	PREQ: Algebra I, IED, and Biology Recommended PREQ: Geometry	10-12
5280 W Civil Engineering and Architecture (PLTW - CEA)	N1303747 (1 credit)	PREQ: Algebra I and IED	10-12
5290W Aerospace Engineering (PLTW - AE)	N1303745 (1 credit)	PREQ: Geometry, IED, and CEA or ES	11-12
5271 SystemsGo Rocketry	13036500 (1 credit)	PREQ: IED COREQ: Algebra II	10-12
3605W Digital Electronics (PLTW – DE)	13037600 (1 credit)	PREQ: Geometry, IED, and CEA or ES	11-12
5295W Engineering Design and Development (PTLW – EDD)	N1303749 (1 credit)	PREQ: IED, ES, and one additional PLTW	11-12
5085 Practicum in Science, Technology, Engineering, and Mathematics	13037400 (2 credits)	PREQ: Algebra I and Geometry Recommended PREQ: 1 course from Engineering	12
0030 ISM - Scientific Research & Design	13037200 (1 credit)	PREQ: Biology, Chemistry, IPC, or Physics	11-12

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER
ENGINEERING



Level 1	Computer Science I
Level 2	Computer Science II AP Computer Science Principles
Level 3	AP Computer Science A, MATH/LOTE
Level 4	Computer Science III Practicum in Science, Technology, Engineering, and Mathematics Independent Study in Evolving/Emerging Technologies ISM in Computer Science I and II

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Association JAVA SE 8 Programmer	Certified Computing Professional	Computer Programming/ Programmer Genera	Management Information Systems, General	Computer Software Engineer
Oracle Certified Database Associate	Cloud Technology Associate Certification	Computer Software Engineer	Computer Software Engineer	Computer Science
Microsoft Technology Associate, Introduction to Programming Using Python, HTML or CSS	AEM 6 Developer	Computer Science	Computer Science	Information Science/ Studies
Microsoft Technology Associate, Introduction to Programming Using Java or Java Script	Certified Software Analyst	Certified Software Analyst	Information Science/ Studies	

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

Occupations	Median Wage	Annual Openings	% Growth
Software Developer, Systems Software	$103,334	2,985	25%
Software Developers, Applications	$104,499	6,311	30%
Computer Programmers	$79,893	1,454	9%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Compete in UIL Computer Science Participate in coding club at school	Obtain an industry-based certification.

The Programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Programming and Software Development program of study will fulfill requirements of the Business and Industry and STEM endorsement if the math and science requirements are met. Revised - July 2020

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
0500 Computer Science I	03580200 (1 credit)	PREQ: Algebra I	9-12
0505 AP Computer Science Principles May count as a world language credit	A3580300 (1 credit)	PREQ: Geometry	9-12
0530 Computer Science II	03580300 (1 credit)	PREQ: Geometry and Computer Science I or Fund of Computer Science	9-12
0510 AP Computer Science A, MATH/LOTE May count as a math and world language credit	A3580110 (MATH) (1 credit) A3580120 (LOTE) (1 credit)	PREQ: Algebra II and Computer Science II	10-12
0535 Computer Science III	03580350 (1 credit)	PREQ: Pre-Cal, Computer Science II, And AP Computer Science A	11-12
5085 Practicum in Science, Technology, Engineering, and Mathematics	13037400 (2 credit)	PREQ: Algebra I and Geometry Recommended PREQ: 1 course from Programming	12
0610/0612 Independent Study in Evolving/Emerging Technologies I and II	03581500 (1 credit) 03581600 (1 credit)	PREQ: Algebra II and Computer Science I	10 -12
0630 ISM Computer Science I 0640 ISM Computer Science II	N1290309 (1 credit) N1290313 (1 credit)	PREQ: AP Computer Science PREQ: ISM Computer Science I	11-12 12

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER
PROGRAMMING AND SOFTWARE DEVELOPMENT

Career & Technical Education Electives

Courses in this cluster will count toward the

STEM Endorsement

STEM CAREER CLUSTER

BIOMEDICAL SCIENCE

Courses count toward Public Service or STEM Endorsement if math and science requirements are met.

5410W PRINCIPLES OF BIOMEDICAL SCIENCE, WEIGHTED COURSE

Grade: 9 - 11
Credit: I
Prerequisite: None

In the Principles of Biomedical Science (PBS) course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems. From design and data analysis to outbreaks, clinical empathy, health promotion, and more, students explore the vast range of careers in biomedical sciences. They develop not just technical skills, but also in-demand, transportable skills that they need to thrive in life and career.

5425W HUMAN BODY SYSTEMS, WEIGHTED COURSE

Grade: 10 - 12
Credit: I
Prerequisite: Biology & completed or concurrent enrollment in Chemistry
Recommended: 1 course from Health Science/Biomedical Pathway
This course may count as a science credit

In the Human Body Systems (HBS) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. In this project-based course, students design experiments, investigate the structures and the functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries.

5415W MEDICAL INTERVENTIONS, WEIGHTED COURSE

Grade: 11 - 12
Credit: I
Prerequisite: Biology & Chemistry; Principles of Biomedical Science or Human Body Systems
This course may count as a science credit

Medical Interventions (Ml) allows students to investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. A “How To” manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices and diagnostics.

5440W BIOMEDICAL INNOVATION, WEIGHTED COURSE

Grade: 12
Credit: 1
Prerequisite: Principles of Biomedical Science or Human Body Systems and Medical Intervention

In this capstone course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician's office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community.

0030 ISM - SCIENTIFIC RESEARCH AND DESIGN

Grade: 11-12
Credit: 1
Prerequisite: Biology, IPC, Chemistry, or Physics

This Scientific Research and Design course known as ISM allows academically advanced junior, and senior learners an opportunity to conduct career and science research investigations through an independent study mentorship. Students conducts empirical research under the guidance of a teacher facilitator and mentor. The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals. These components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.
Learners must be self-motivated and have transportation to visit off-campus mentors.

5085 PRACTICUM IN STEM

Grade: 12
Credit: 2
Prerequisite: Algebra I and Geometry
Recommended: At least one course from the STEM Programs of Study

Practicum in STEM is designed to give students supervised hands-on, real world practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations in Science, Technology, Engineering or Math appropriate to the nature and level of experience. This practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Science, Technology, Engineering, and Mathematics (STEM) Career Cluster

AP + PLTW : Preparing Students for College and Careers

To help prepare all students for the global workforce, the College Board and Project Lead The Way (PLTW) have partnered on a program to encourage student participation in science, technology, engineering, and math (STEM) courses and build their interest in STEM degrees and careers. The program leverages the success of the College Board's Advanced Placement Program (AP) and Project Lead The Way's applied learning programs.
The program has three elements:

- College and career pathways that connect AP and PLTW courses
- Recognition for students who participate in the pathways, and recognition for schools
- A portfolio of career-focused opportunities for students

Explore the Pathway Menu

Level	Engineering
College - AP Courses	AP Biology AP Chemistry
Career - PLTW Courses	Principles of Biomedical Science Human Body Systems Medical Interventions

Student Recognition
Students who complete the requirements of their chosen pathway earn the **AP + PLTW student recognition**, a qualification that demonstrates to colleges and employers that the student is ready for advanced course work and interested in careers in this discipline.

To earn the recognition, the student must satisfactorily complete three courses in the pathway – one AP course; one PLTW course; and a third course, either AP or PLTW – and earn a qualifying score of 3 or higher on the AP Exam(s) and a score of Proficient or higher on the PLTW End of Course (EoC) assessment(s).

ENGINEERING

5272 ROBOTICS I

Grade: 9 - 12
Credit: 1
Prerequisite: None

In Robotics I, students will transfer academic skills to component designs in a project based environment through implementation of the design process. Students will build prototypes or use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.

5270W INTRODUCTION TO ENGINEERING DESIGN, WEIGHTED COURSE (IED)

Grade: 9 - 12
Credit: 1
Prerequisite: None

Introduction to Engineering is the first course in engineering sequence and it uses a project-based curriculum that focuses on making math and science relevant for students. By engaging in hands-on, real-world projects and state-of-the-art software, students understand how math and science concepts, design processes teamwork lead to solutions. Learners taking this class will be required to present one of the classroom projects to a group of engineers at a STEM fair held at FHS during the spring semester for real world feedback and insight in the field.

5280W CIVIL ENGINEERING AND ARCHITECTURE, WEIGHTED COURSE (CEA)

Grades: 10 - 12
Credit: 1
Prerequisite: IED and Algebra I

This project-based course provides an overview of the fields of Civil Engineering and Architecture, while emphasizing how these fields work together to build a functional artful structure. Students will investigate current industry developments in the site planning, green and sustainable design in both residential and commercial design. Learners taking this class will be required to present one of the classroom projects to a group of engineers at a STEM fair held at FHS during the spring semester for real world feedback and insight in the field.

4900W ENGINEERING SCIENCE , WEIGHTED COURSE (ES)

Grades: 10 - 12
Credit: 1
Prerequisite: IED, Algebra I
Recommended: Geometry
This course may count as a science credit

This course explores the field of engineering and engineering technology. Learners will explore various technology systems and manufacturing processes in order help them understand how engineers and technicians use math, science and technology to solve engineering problems. ES focuses heavily on group design and Project Based Learning. Learners will gain hands on insight into various engineering disciplines. Learners will present a classroom project to a group of engineers for real world feedback at a STEM Fair held at FHS in the spring semester.

5290W AEROSPACE ENGINEERING, WEIGHTED COURSE (AE)

Grade: 11 - 12
Credit: 1
Prerequisite: IED, ES or CEA and Geometry

Aerospace Engineering (AE) is the study of the engineering discipline, which develops new technologies for use in aviation, defense systems, and space exploration. The course explores the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers. In addition the course presents alternative applications for aerospace engineering concepts. Learners taking this class will be required to present one of the classroom projects to a group of engineers at a STEM fair held at FHS during the spring semester for real world feedback and insight in the field.

3605W DIGITAL ELECTRONICS, WEIGHTED COURSE (DE)

Grade: 11 - 12
Credit: 1
Prerequisite: IED, Geometry, and CEA or ES
This course may count as math credit.

This course is designed to teach you about applied logic, which introduces you to the basics of electronics and digital systems - the building blocks to many products you use. The course is designed to expose learners to engineering design, and troubleshooting techniques that are used in the electronics field. Computer simulation software is used to design and test digital circuitry in addition to actually constructing them. The projects are traditional in which you will learn how machines think. You will also learn a systematic approach that engineers use to design tee electronics that are used every day. Learners taking this class will be required to present one of the classroom projects to a group of engineers at a STEM fair held at FHS during the spring semester for real world feedback and insight in the field.

5295W ENGINEERING DESIGN & DEVELOPMENT, WEIGHTED COURSE (EDD)

Grades: 11 - 12
Credit: 1
Prerequisite: IED, ES, and 1 additional PLTW course

This is an engineering research course in which learners work in pairs to research, design and construct a solution to an open- ended engineering problem. Learners apply principles developed in the three preceding courses and are guided by a community mentor. They must present progress reports, submit a final written report and defend their solutions to a panel of outside reviewers at the end of the school year.

5271 SYSTEMSGO TSOILSKOVSKY ROCKETRY

Grade Placement: 10–12
Credit: 1
Prerequisite: IED and concurrent Algebra II

Students enrolled in this course will demonstrate knowledge and skills of the design process as it applies to Rocketry using multiple software applications and tools necessary to produce and present working drawings, solid model renderings, and prototypes. Students will design and build three small rockets, each with more difficult criteria. The goal of the course is for students to design, develop, test, and analyze a rocket to carry a 1 pound payload to an apogee of 1 mile.

0030 ISM - SCIENTIFIC RESEARCH AND DESIGN

Grade: 11-12
Credit: 1
Prerequisite: Biology, IPC, Chemistry, or Physics

This Scientific Research and Design course known as ISM allows academically advanced junior, and senior learners an opportunity to conduct career and science research investigations through an independent study mentorship. Students conducts empirical research under the guidance of a teacher facilitator and mentor. The ISM class allows learners to work with experts in various fields, acquiring practical knowledge and hands-on experience. It also presents learners an opportunity to accept the type of responsibility that is usually only given to college learners and business professionals. These components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education.
Learners must be self-motivated and have transportation to visit off-campus mentors.

5085 PRACTICUM IN STEM

Grade: 12
Credit: 2
Prerequisite: Algebra I and Geometry
Recommended: At least one course from the STEM Programs of Study

Practicum in STEM is designed to give students supervised hands-on, real world practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations in Science, Technology, Engineering or Math appropriate to the nature and level of experience. This practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Science, Technology, Engineering, and Mathematics (STEM) Career Cluster

AP + PLTW : Preparing Students for College and Careers

To help prepare all students for the global workforce, the College Board and Project Lead The Way (PLTW) have partnered on a program to encourage student participation in science, technology, engineering, and math (STEM) courses and build their interest in STEM degrees and careers. The program leverages the success of the College Board's Advanced Placement Program (AP) and Project Lead The Way's applied learning programs.
The program has three elements:

- College and career pathways that connect AP and PLTW courses
- Recognition for students who participate in the pathways, and recognition for schools
- A portfolio of career-focused opportunities for students

Explore the Pathway Menu

Level	Engineering
College - AP Courses	AP Biology AP Calculus AB AP Calculus BC AP Chemistry AP Computer Science Principles AP Environmental Science AP Physics 1 AP Physics 2 AP Statistics
Career - PLTW Courses	Introduction to Engineering Design Engineering Science Aerospace Engineering Civil Engineering and Architecture Digital Electronics

Student Recognition
Students who complete the requirements of their chosen pathway earn the AP + PLTW student recognition, a qualification that demonstrates to colleges and employers that the student is ready for advanced course work and interested in careers in this discipline.

To earn the recognition, the student must satisfactorily complete three courses in the pathway – one AP course; one PLTW course; and a third course, either AP or PLTW – and earn a qualifying score of 3 or higher on the AP Exam(s) and a score of Proficient or higher on the PLTW End of Course (EoC) assessment(s).

CYBERSECURITY AND PROGRAMMING & SOFTWARE DEVELOPMENT

0500 COMPUTER SCIENCE I

(formerly known as Computer Science Programming)

Grade: 9 - 12
Credit: 1
Prerequisite: Algebra I

Computer Science I is designed to introduce students to coding through an exploration of engaging content. The Carnegie Mellon University (CMU) Academy curriculum is used throughout the year. The programs that the students write start off with programming simple cartoon characters, landscapes and other various items using geometric concepts. Afterwards, they dive into functions and understand how useful they can be in coding. Step by step the class begins to add more coding features to their programs, even adding animation to their characters. Students will team up to create an animated game using their knowledge of coding concepts that they had practiced in their mini programs. CMU has built their own graphics library into the Python programming language into their curriculum making it easier to learn how to code.

5204 FOUNDATIONS OF CYBERSECURITY

Grade: 9-12
Credit: 1
Prerequisites: None

Students will develop the knowledge and skills needed to explore fundamental concepts related to the ethics, laws, and operations of cybersecurity. Students will examine trends and operations of cyberattacks, threats, and vulnerabilities. Students will review and explore security policies designed to mitigate risks. The skills obtained in this course prepare students for additional study in cybersecurity.

0530 COMPUTER SCIENCE II, WEIGHTED COURSE

(formerly known as PreAP Computer Science Programming)

Grade: 9 - 12
Credit: 1
Prerequisite: Geometry, CSI or Fundamental of Computer Science

The goal of this course is to teach students the Python programming language by creating simple games. Python is a language with a simple syntax, and has a powerful set of libraries. It is an interpreted language, with a rich programming environment, including a robust debugger and profiler. While it is easy for beginners to learn, it is widely used in many scientific areas for data exploration. This course is an introduction to the Python programming language for students without prior programming experience. We cover data types, control flow, object-oriented programming, and graphical user interface-driven applications. The examples and problems used in this course are drawn from diverse areas such as text processing, simple graphics creation and image manipulation, genomics and arcade game development. Instead of written finals for the semesters, there will be collaborative projects that the students will manage and create an application with documentation that they will be presenting on the final day.

Due to the emphasis on object-oriented programming, students who take this course will be prepared to take the AP Computer Science course the following year.

0505 AP COMPUTER SCIENCE PRINCIPLES

Grade: 9 - 12
Credit: 1
Prerequisite: Geometry. Freshmen can enroll in the course if they are taking MAP Algebra II
This course may count as a world language credit

CS II and the AP CS classes are not necessary to enroll in this course. It is a survey of computer science and not a programming course like AP CS. The course will teach technological skills of the 21st century.

This course will help learners problem solve, analyze data, be creative thinkers and collaborate while learning new computer skills. This course is taught with two concurrent computer science strands: creativity and principles. The creativity theme topics arc: Computing as a creative activity, processing of data creates knowledge, abstraction, levels of abstraction, managing complexity, computational thinking and programming and debugging. The Principles theme topics are: Data and information, algorithms, basic ideas behind technologies including computers, networks, search engines, and multimedia. Topics also include social uses and abuses of information, and the foundations of privacy.

0510 AP COMPUTER SCIENCE

Grade: 10 - 12
Credit: 1
Prerequisite: Algebra II, Computer Science II and teacher recommendation
This course will count as a math and world language credit

The math credit will be transcribed as an earned grade with AP weight. The World Language credit will be transcribed as a Pass/Fail credit

AP Computer Science stresses object-oriented programming methodology (OOP) with an emphasis on problem solving and algorithmic development. This course is meant to be the equivalent of a first semester college course in computer science. It goes beyond merely learning to use applications like word processing, spreadsheets, and Internet browsers. Learners with an interest related to engineering, business, the computer professions, bioinformatics, genetics, physics, chemistry, pre-med or math should take this course. This course uses the Java language and focuses on the basic principles needed to design and build applications. At the end of the course, learners will have the choice to take the AP Computer Science test. If a student passes the test, college credit for a semester of computer science may be awarded to the student. Learners will be expected to participate by solving problems, implementing those solutions on the computer, and then testing the problems using reasonable data to ensure accuracy. The problems solved will come from a variety of disciplines including mathematics, physics, chemistry, biology, economics, business and engineering. Students should consider their prior mathematical experiences when considering this course. There will be a strong emphasis on logical reasoning in addition to the use of mathematical concepts from Algebra, Geometry and Statistics. Students are encouraged to compete in local programming contests to improve their programming skills as well UIL competitions.

0535 COMPUTER SCIENCE III, WEIGHTED COURSE

Grade: 11-12
Credit: 1
Prerequisite: Pre-Cal, Computer Science II and AP Computer Science

This course is a continuation of AP Computer Science delving into advanced topics within Java. A great emphasis is placed on the organization of information through the implementation of data structures: two-dimensional arrays, array lists, linked lists, stacks, queues, trees, sets, maps, and hash tables. The discussion of algorithmic analysis using Big-O notation is a key concept of promoting efficiency in programs. Dynamic programming is introduced as well as other algorithmic programming techniques. Students learn to analyze large projects of interacting classes. Learners will become familiar with the interaction of hardware and software components and the ethical and social implications of computing

0515 NETWORKING

Grade: 10 - 12
Credit: 1
Prerequisite: None

In Networking, students will develop knowledge of concepts and skills related to data networking technologies and practices to apply them to personal or career development. To prepare for success, students will have opportunities to reinforce, apply and transfer knowledge and skills to a variety of settings and problems.

0610 INDEPENDENT STUDY IN EVOLVING/EMERGING TECHNOLOGIES IN COMPUTER SCIENCE
0612 INDEPENDENT STUDY IN EVOLVING/EMERGING TECHNOLOGIES IN COMPUTER SCIENCE II

Grade: 10 - 12
Credit: 1
Prerequisite: Computer Science I, Algebra II and teacher recommendation

Through the study of evolving/emerging computer science technologies, students will study and research a topic of their choosing within the field of computer science. Students will learn to make informed decisions, develop and produce original work that exemplifies the standards identified by the computer science discipline. Students will gather information of their project by identifying task requirements, using search strategies, and using technology to access, analyze, and evaluate the acquired information. By using technology as a tool that supports the work of individuals and groups in solving problems, students will select the technology appropriate for the task, synthesize knowledge, create solutions, and evaluate the results. After completion of their research, students will then present their work to their peer group as well as community members.

5203 DIGITAL FORENSICS

Grade 11-12
Credit: 1
Prerequisite: Computer Science I and Geometry; teacher recommendation
Recommended: Computer Science II

Digital Forensics will foster students' creativity and innovation by presenting opportunities to investigate simulations and case studies of crimes, reconstructing computer security incidents, troubleshooting operational problems, and recovering from accidental system damage. Students will collaborate to develop forensic techniques to assist with computer security incident response. Students will learn methods to identify, collect, examine, and analyze data while preserving the integrity of the information and maintaining a strict chain of custody for data. Students will solve problems as they study the application of science to the law. Students will learn digital citizenship by researching current laws and regulations and by practicing integrity and respect. Students will gain an understanding of computing and networking systems that transmit or store electronic data.

0630 INDEPENDENT STUDY MENTORSHIP IN COMPUTER SCIENCE I

Grade: 11-12
Credit: 1
Prerequisite: Successful completion of the AP Computer Science and teacher recommendation

This course is intended for the junior/senior student who has completed the AP Computer Science course and would like to work with a mentor in the computer industry or a university setting. The student can choose a mentor or one can be assigned to him or her. The mentor will work very closely with the student. The student will be expected to monitor and complete a research project. This is a great opportunity and good exposure to the student who is thinking about pursuing a computer science, science or engineering degree program in college.

0640 INDEPENDENT STUDY MENTORSHIP IN COMPUTER SCIENCE II

Grade: 12
Credit: 1
Prerequisite: Successful completion of Independent Study Mentorship I, Computer Sciene I and teacher recommendation

This course was designed for senior students who have completed Independent Study Mentorship in Computer Science I. Students will be expected to monitor and complete a research project and work with a mentor.

5085 PRACTICUM IN STEM

Grade: 12
Credit: 2
Prerequisite: Algebra I and Geometry
Recommended: At least one course from the STEM Programs of Study

Practicum in STEM is designed to give students supervised hands-on, real world practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations in Science, Technology, Engineering or Math appropriate to the nature and level of experience. This practicum course is a paid or unpaid capstone experience for students participating in a coherent sequence of career and technical education courses in the Science, Technology, Engineering, and Mathematics (STEM) Career Cluster.

Acronym Definitions

ACT	American College Testing
AD ISM	Academic Decathlon Independent Study Mentorship
AP	Advanced Placement
AVP	Audio Video Production
CAN	Certified Nurses Aid Certification
CLEP	College Level Examination Program
COM	College of Mainland
CNC	Computer Numerical Control
CPR	Cardiopulmonary Resuscitation
CTC	Computer Technology Certification
DAEP	District Alternative Education Placement
DECA	Distributive Education Clubs of America
DNA	Deoxyribonucleic Acid
EHS	Early High School
ELA	English Language Arts
EOC	End of Course
ESS	Earth Space & Science
FAFSA	Free Application for Federal Student Aid
FHS	Friendswood High School
FISD	Friendswood Independent School District
GPA	Grade Point Average
GT	Gifted & Talented
HB5	House Bill 5
INC	Incomplete
IPC	Integrated Physics & Chemistry
ISM	Independent Study Mentorship
MACRO	Macroeconomics
MAP	Mustang Advanced Program
MCS	Mustang Cable System
MIT	Massachusetts Institute of Technology
MOS	Microsoft Office Certification
NCAA	National Collegiate Athletic Association
NHRP	National Hispanic Recognition Program
NMSQT	National Merit Scholarship Qualifying Test
PALS	Peer Assistance & Leadership
PLTW	Project Lead the Way
PRE AP	Pre Advanced Placement
PSAT	Preliminary Scholastic Assessment Test
SAT	Scholastic Assessment Test
SB	Senate Bill
SBOE	State Board of Education
STAAR	State of Texas Assessments of Academic Readiness
STEM	Science Technology Engineering Math

Acronyn Definitions Continued..

TAC	Texas Administrative Control
TAKS	Texas Assessment of Knowledge & Skills
TEA	Texas Education Agency
TEKS	Texas Essential Knowledge & Skills
TELPAS	Texas English Language Proficiency Assessment
THEA	Texas Higher Education Assessment
TMEA	Texas Music Educators Association
TSFA	Texas State Floral Association Certification
TSI	Texas State Initiative Assessment
TxVSN	Texas Virtual School Network
UIL	University Interscholastic League
USAD	United States Academic Decathlon

Assurances

The Friendswood Independent School District is an equal opportunity employer and offers equal education opportunity employer and offers education opportunities, as requested by Title IV of the Civil Rights of 1964, as amended; Title IX of the Education Amendment of 1972, the Age Discrimination Act of 1975, as amended, and Section 504 of the Rehabilitation Act of 1973, as amended. The Friendswood Independent School District does not discriminate on the basis of race, color, religion, sex, age, national origin, or handicapping condition in the employment, assignment and promotion of personnel nor in the admission of learners to any educational program or activity, except as may be authorized by law or regulations. Friendswood Independent School District will take steps to assure that lack of English language skills will not be a barrier to admission and participation in all educational and Career & Technical Education programs.