HOUSTON CHRISTIAN
HIGH SCHOOL

COURSE CATALOG

2023-2024

Course Offerings

In order for courses to be offered, a minimum number of students must request the course. All courses are 1 credit and meet for the fall and spring semesters. Requesting an AP or Honors course does not guarantee placement. Academic records will be evaluated by instructors who make final decisions. Notice of acceptance or denial will be emailed by 5/31. Talk to your instructor if you are uncertain about Honors/AP placement. Extra grade points are added to the GPA in a DSP, Honors, or AP course; extra grade points are not reflected on report cards or transcripts: AP = 5; DSP & Honors = 4. * Indicates electives that can be taken by 9th graders; # Requires instructor approval or audition.

ENGLISH
English 1; 1 Honors
English 2; 2 Honors
English 3; 3AP
English 4-Sem 2: Society & Comedy
English 4-Sem 3: Heroic Cycle
English 4 AP

MATH
Algebra 1; 1 Honors
Geometry; Honors
Algebra 2; 2 Honors
Pre-Calculus; Honors
Finite Math/Statistics
Calculus-Business
Statistics AP
Calculus AB AP
Calculus BC AP
Calculus 3 (online only)

BIBLE
Intro to Christian Leadership (9)
Old Testament Studies (10)
New Testament Studies (11)
Christian Worldview (12)

SOCIAL SCIENCES
World History; World History AP (optional)
World History/Geography Honors
US History; US History AP
Government; Government AP/Economics

WORLD LANGUAGES
Mandarin 1; 2; 3; 4
Latin 1; 2; 3 Honors; 4 Honors
Spanish 1; 2; 2 Honors; 3; 3 Honors
Spanish 4 Conversation/Culture; AP

SCIENCE
Biology; Honors; AP
Chemistry; Honors; AP (AP pre-req Chem H)
Physics (pre-req complete Chem & Alg 2 w/80%)
Physics Honors (pre-req Chem & in/complete Pre-Cal)
Anatomy & Physiology
Geology/Meteorology/Oceanography (GMO)
Physics C: Mechanics AP (pre-req Phys H & AB/BC Calc)

FINE ARTS (FAB BLOCK 7:40-8:25 AM DAILY, FULL YEAR)
*Chorale *Band *Orchestra *#Drill Team #Video Tech

ELECTIVES
*#PCR Program for College Readiness 1, 2
*#DSP Research 9, 10, 11, 12
World History AP

ELECTIVES 10-12 GRADE
Engineering in Robotics
AP Computer Science Principles
Creative Writing
Innovation for Social Impact
History & Film
Leadership Studies

ELECTIVES 11-12 GRADE
#AP Computer Science A/Java
Accounting
Leadership Advanced
Psychology
Leadership Organizational Design (12)
Personal Finance

ELECTIVES (CAN BE FINE ART CREDIT)
*Art 1 Drawing & Painting; Art Advanced (pre-req Art1)
*Art-3D/Ceramics; Art-3D/Ceramics Advanced (pre-req 3D)
*Art-Photography/Digital Media;
Art-Photography/Digital Media Advanced (pre-req Photo1)
#Integrated Media Production
#Studio Art AP (pre-req AdvArt + Tchr Apr)
*Dance-Introduction;
Dance Intermediate (pre-req Dance Intro)
#Dance-Repertory-Doxa
#Yearbook Journalism
*Speech/Debate
*Drama; Drama Advanced (pre-req Drama1)
*String Methods-Beginning
*Guitar/Theory Beginning; *Guitar Advanced
*Piano Beginning; *#Piano Advanced
#Theater Production
*Chamber Singers
#Video Tech (11-12)
*#Jazz Band
*#Drumline
*Technical Theater
*#Music for Worship

Graduation Requirements

COURSE	CREDIT
English	4
Math	^4 / 3 or 4^
Science	^4 / 3 or 4^
Social Science	3
World Language	2
Fine Arts	1
Electives+	5 / 6
Bible	4
Physical Education / Athletics~	1
TOTAL	**28**

^Students must earn 1 credit in math & science each year of 9th - 11th grade, regardless of credits earned in middle school. Seniors may choose to take only 3 years of math or 3 years of science but must take a 4th year of math or science. To be BEST prepared for colleges with selective admission, students should take 4 years of math and science and the most rigorous courses appropriate for their ability. Students who take Geometry in 9th grade must take Algebra 2 in 10th grade and Pre-Calculus in 11th grade. Juniors must take an elective science if they do not take Physics. Seniors may choose their math and science courses; students must earn a minimum of 1 credit in social science during 9th, 11th, and 12th grade. +Students may not take more than 2 non-core academic electives in one year (ex: art, guitar, piano, etc.)
~ ½ PE credit per semester is awarded for an HC sport, band, drill team, cheerleading, conditioning, or documented off-campus activity. Eighty (80) clock hours of off-campus PE must be documented via an Off-Campus PE Form to receive credit.

Course Catalog

Houston Christian High School engages students in an empowering, dynamic education from a Christian worldview, developing young adults into effective and impactful leaders. We provide rigorous, collegiate-style academic programs where students are challenged to discover their potential and become difference-makers in their communities. Explore the following pages to read specifically about how each of our departments works toward student success. We look forward to partnering with you on your students' educational journey.

BIBLE

Leadership Studies 1 - Introduction to Christian Leadership

This course combines biblical values and goals with leadership dimensions to educate students about themselves, God, and the world. The underlying biblical foundation is the Greatest Commandment as a guide for understanding a Biblical worldview, discipleship, and servant leadership. The course focuses on the first two dimensions of the leadership of the HC leadership program: 1) Spiritual Dimension and 2) Personal Dimension. Teaching methodology involves varying activities that engage students in discussion, self-reflection, and teamwork. *9th grade required course*.

Old Testament Studies

Students will explore the people, events, and teachings of the Old Testament books. Emphasis will be placed on the metanarrative of the Bible and on responsible interpretation and application of scripture. *10th grade required course*.

New Testament Studies

In this course, students will examine the books/letters that comprise the New Testament. As we examine the texts, we will focus on Historical, Literary, Canonical, and Grammatical methods of breaking down and interpreting the scriptures. In interpreting the scriptures, we will seek to discover how every NT Book applied in the 1st-3rd centuries and how this living and active Word applies to our lives today. *11th grade required course*.

Christian Worldview

Senior Bible helps students synthesize what they have studied in Bible courses to understand how to apply the Bible to their lives. An emphasis is placed on understanding how to wrestle with real-world questions from a Christian Worldview, such as 'What is Truth', 'Who is Jesus', 'What is the Church,' 'Why Does God Permit Evil'. *12th grade required course*.

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Course Catalog

ELECTIVES

Accounting

This course provides a basic understanding of accounting principles and application. Students implement skills in written and computerized accounting to strengthen individual performance and to make a successful transition to post-secondary education accounting. Students apply technical skills to address business applications of emerging technologies and develop a foundation in the economical, financial, technological, social and ethical aspects of business accounting to become competent consumers, employees and entrepreneurs. This class is a must for those planning on majoring or minoring in any Business Major in college. *Prerequisite: Students must be in grades 11-12.*

Computer Science A (Java) AP

The course introduces students to computer science with fundamental topics including problem-solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem-solving and design using Java language. These techniques represent proven approaches for developing solutions, scaling up from small, simple problems to large, complex problems. The AP Computer Science A course curriculum is compatible with many CS1 courses in colleges and universities. This is a course for those who enjoy learning programming. Prerequisite: Taking AP Computer Science Principles first is recommended but not required. This course is recommended for grades 11-12 and requires instructor approval.

Computer Science Principles AP

Students develop effective communication and collaboration skills by working individually and collaboratively to solve problems. They discuss and write about the impacts these solutions could have on their community, society, and the world. The course introduces students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computer apps for both self-expression and problem solving. The course is equivalent to a first-semester introductory college computing course. Sophomore students who have a strong interest in computers and have a strong work ethic are eligible to request this course. Prerequisite: Students must be in grades 10-12.

ELECTIVES CONT.

Creative Writing

This course explores the art of creative writing, focusing on major genres such as poetry, fiction, nonfiction, and drama. Through daily response to prompts, discussion and analysis of the works of published authors and artists, students gain understanding of the principles of quality creative writing and learn how to improve their own writing. Students continually participate in writing workshops, where the writing process (brainstorming, drafting, revising, editing, peer reviewing, and publication) is fully explored. Open to grades 10-12.

History and Film

History and Film is an elective course designed to familiarize students with the history of film making, the social and historical contexts in which popular films were made, and to introduce students to the skills necessary to analyze film as a visual art form. This course is designed for 10th through 12th grade students.Students will explore the history of film making from the early 20th century through the end of the 20th century. Students will view and analyze a variety of films, particularly focusing on American films and film makers. Instruction will be supplemented by viewing significant films, through reading selections from the textbook and scholarly articles that explore the relationships between history and film. Open to all in grades 10 - 12.

Innovation for Social Impact

What does it mean to be a changemaker? How might I use my interests and skills to make a meaningful impact? What role can I play in responding to complex global and local issues? Innovation for Social Impact students explore critical global issues within the spheres of society, environment, culture, and economics. Students build the skills of changemakers as they learn and practice frameworks of Design Thinking, research, and collaboration. This project-based course will connect students to local and global partners actively engaged in real problems in their communities. In the second semester, student teams undertake projects related to a selected issue and are guided through the process of planning, implementation, evaluation, and reflection. Students will build the skills of leaders, thinkers, and communicators as they work to achieve tangible and measurable goals designed for meaningful impact. Open to 10th-12th grade students.

Personal Finance

The Personal Finance course exposes students to essential personal finance principles through hands-on activities, and real-world applications. This course is recommended for HC juniors who anticipate needing financial aid for college and HC seniors that don't anticipate needing financial aid. Students will also benefit from hearing from experts in the fields of credit, investing, mortgages, and insurance.

ELECTIVES CONT.

Program for College Readiness Tier 1 - Academic Enrichment

Organization, Efficiency of Time Management, Testing Strategies and Academic/Executive Function Skills are introduced and taught by a qualified strategies instructor. Students define their personal learning styles and work through their learning disability relying on their academic strengths. Designed for Freshmen.

Program for College Readiness Tier 2 - Advanced Academic Strategies

Organization, Efficiency of Time Management, Testing Strategies and Academic/Executive Function Skills are practiced and further refined to meet the students needs and to help them become a self-advocate for their learning style. Designed for Sophomores.

Psychology

Psychology explores the mental, cognitive, and emotional development of humans with special emphasis on childhood, adolescence, adulthood, perception, and personality development. Within this vast framework, psychology also examines the various theories of learning, including classical conditioning and social learning. Students identify major personality disorders and evaluate the role of nature and nurture in human development. Students will also explore how psychological concepts connect to the Christian faith and thus strengthen one's understanding of Biblical teachings. Open to grades 11-12.

Speech and Debate

The speech and debate course will introduce novice students to the elements of public speaking. Students will develop various types of speeches and present them in a variety of environments, including both informal and formal settings. Students will learn the components of informative, expository, and persuasive speeches and practice effective delivery methods of each style of speech. Building on their understanding of historical addresses, students will learn how to deliver impromptu speeches, sales pitches, and conduct interviews.

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Course Catalog

ELECTIVES: DISTINGUISHED SCHOLARS PROGRAM

DSP provides high-achieving students an enhanced learning environment to explore and build the skill set needed to become the next generation of leaders. Mirroring collegiate graduate programs, Scholars select a topic of choice to research and master the building blocks of communication as they strive to learn more and explore different perspectives culminating in a written thesis and oral defense. The four-year program offers the opportunity to study a topic of the Scholar's choosing in an interdisciplinary environment comprised of rigorous thought and research. Reserved for a limited number of high-achieving students who apply and are approved by the director.

DSP Research 9

Scholars connect ideas Biblically, socially, ethically, philosophically, and politically in a study of language & literacy and art & aesthetics. Scholars learn to give narrative, persuasive, demonstrative, and expository speeches with and without the aid of technology. Students use a variety of technology to relate information to an audience of their peers, parents, and visitors. Scholars understand what it means to be a good digital citizen and how to communicate in the world of media effectively. Scholars engage in a year-long book study with all DSP grades and develop reports to guide monthly conversations. Scholars learn the basics of research, empirical study and writing, and American Psychological Association (APA) style of formatting on a topic of choice. Required of 9th graders in DSP.

DSP Research 10

Scholars connect ideas Biblically, socially, ethically, philosophically, and politically in a study of rhetoric and government. Through detail-focused thinking and active participation, Scholars identify associations between historical incidents, global current events, and relevant applications to today's society. Proficiency of APA style is expanded through a series of short papers on culture, a persuasive argument, and a semester-long Review of Related Literature on a topic of choice. Scholars learn effective academic synthesis by integrating several sources and making associations between them. Scholars engage in a year-long book study with all DSP grades and develop reports to guide monthly conversations. Required of 10th graders in DSP.

ELECTIVES: DISTINGUISHED SCHOLARS PROGRAM CONT.

DSP Research 11

Scholars connect ideas Biblically, socially, ethically, philosophically, and politically in a study of human nature & culture and empathy & morality. This course also provides a study of how to formulate and identify a research problem statement, review scholarly literature that is related to that problem statement, present a synthesis of this information in the format of a research poster and accompanying oral presentation, formulate a hypothesis, and select a research design. The written document follows the publication guidelines of the American Psychological Association and the oral presentation follows the combined guidelines of HC and the DSP. Scholars engage in a year-long book study with all DSP grades and develop reports to guide monthly conversations. Required of 11th graders in DSP.

DSP Research 12

Scholars connect ideas Biblically, socially, ethically, philosophically, and politically in a study of science in human society & the question of equality. This course also provides students with a strong foundation in the Scientific Method and Research Process. Students are exposed to a wide range of research methods and learn key principles of research design including sampling, case studies, interviews, participant observation, and survey research. Students are equipped with the knowledge and ability to undertake sound, original research inquiry and develop a set of transferable workplace skills. DSP culminates with the presentation and publication of the Scholars' research. Scholars engage in a year-long book study with all DSP grades and develop reports to guide monthly conversations. Required of 12th graders in DSP.

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Course Catalog

ELECTIVES: LEADERSHIP

Leadership Studies (Sophomores and Juniors)

This leadership studies course covers all five Dimensions of Leadership taught at Houston Christian: spiritual, personal, interpersonal, managerial and organizational. This course's main focus is on the interpersonal dimension. The students will learn about communication (both formal and informal), teamwork, mentorship, compassion, motivation, character studies and case studies through instruction, discussion and a variety of individual and group activities. No prerequisite. For 10th or 11th grade students.

Leadership Advanced (Juniors and Seniors)

This elective course continues student development in leadership skills in all five dimensions of leadership with a specific focus on the managerial dimension of problem solving within organizations. The class uses a Socratic method of discussion to engage students in problem-solving. Students analyze case studies, ethical dilemmas, and actual major failures in leadership, followed by a healthy discussion on leadership successes and failures observed. Additional activities include guest speakers, movie studies, written assignments, and field trips. At the course conclusion, students are required to research, present and defend an extensive capstone study on a leadership topic. No prerequisite. For 11th or 12th grade students.

Leadership - Organizational Design (Seniors only)

This elective course focuses on the organizational dimension of leadership. During the first semester, students study strategic planning and the development of organizational culture. They learn how organizations successfully handle change and how organizations develop a vision for the future to remain competitive. Students complete two finance projects during the first semester. In the second semester, student teams will develop their own small business to include a comprehensive presentation, a business plan, and a website. They will present their projects to business owners and leaders in our community, who we invite to receive and critique their small business presentations. Students complete this course with an understanding of large corporations, small businesses, and non-profits. Completion of Leadership Studies and/or Leadership Advanced is recommended but not required. This course is only open for 12th-grade students.

Course Catalog

ARTS: FINE ARTS

String Methods (for Beginners)

This course is suitable for students in grades 9-12 who are interested in learning how to play the violin, viola, cello, or bass. It is designed for both beginners who have never played an instrument before and those with limited experience. The goal of this course is to develop the student's performance so they can enter into Fine Art Block - Orchestra the following year if they so chose. Ownership or rental of an instrument is necessary and can be provided by the instructor. Students will have the opportunity to participate in seasonal concerts, contests and field trips. No auditions are required to enroll in this course. Additionally, intermediate or advanced string students are welcome to participate in the course as mentors for beginner students. Open to all grades; no previous skill needed.

Music for Worship

This course is specifically designed for students who have an active personal faith and a desire to worship through music. The course will cover various topics, such as the significance of music in worship, leadership skills of music worship leaders, planning and preparing music for diverse worship settings, and the technical aspects of music in worship. In addition, students will prepare music to lead worship in select chapel services, learning the production aspect of such performances, and basic sound production techniques related to this type of music and performance. The course is open to students who sing and/or play instruments and is highly recommended for those who wish to participate as a student worship leader. All grades are welcome to audition for the course.

Jazz Band

This performance-oriented ensemble course includes practices in and outside of class. Advanced wind and percussion skills are stressed with an emphasis on performance. Jazz music from various periods and of several styles is studied and performed throughout the year. Performance opportunities exist for all members of the Jazz Band. Enrollment for this course is limited based on instrumentation needs/requirements and proficiency of the students' ability. Open to all grades (by audition only).

ARTS: FINE ARTS CONT.

Drumline

Drumline class is a requirement for members of the HC Drumline. Students are exposed to a broad range of musical styles, instrumentation, and ensembles addressing specific needs inherent to percussion technique and musicianship. Students are taught percussion fundamentals, including hand/mallet technique, rhythm/ear training, and music reading. The four primary areas of study are snare drum (marching/concert), marimba, timpani, and ethnic/unique percussion. Students gain performance experience in multiple settings such as solo, chamber, and large ensemble configurations. During the Fall Semester, the members of the percussion class form the battery component of the pep band. During the Spring Semester, the class priority shifts to percussion ensemble and concert repertoire. Open to all grades (by audition only).

Guitar/Theory - Beginning

This course is designed to introduce students to the fundamental concepts of playing the guitar. No prior musical knowledge or experience is required to enroll in this course. Students will learn about the anatomy of the guitar, proper playing technique, basic chords and scales, and reading guitar tabs. Additionally, the course will cover various musical genres and their respective playing styles, such as rock, blues, and folk. By the end of the course, students will have a solid foundation in guitar playing and be able to play simple songs and melodies. The course will be taught in a collaborative environment where students can learn together. Students are required to provide their own guitar, and the course is open to all grades.

Guitar Advanced

This course is designed for students who have a basic understanding of guitar playing and want to improve their skills. Students will learn more advanced chords, scales, and techniques to develop their playing ability. The course will cover various musical styles, such as classical, jazz, and pop, and students will be encouraged to explore their interests and develop their own playing style. The course will also focus on music theory, including reading standard notation and understanding chord progressions. In addition to individual practice, students will have opportunities to play in ensembles and collaborate with other musicians. By the end of the course, students will have developed a deeper understanding of guitar playing and will be able to play more complex songs and solos. The course will be taught in a collaborative environment where students can learn together. Students are required to provide their own guitar, and prerequisite knowledge of basic guitar playing is required. Course offered by audition or instructor placement.

ARTS: FINE ARTS CONT.

Chamber Singers

Chamber Singers is a vocal ensemble for intermediate to advanced singers. Students will learn advanced sight singing, ear training, singing technique, and performance practices, as well as advanced repertoire from diverse time periods, genres, and cultures. All students in Chamber Singers will learn audition repertoire for the TMEA and TPSMEA audition process and will participate in auditions (or mock auditions) for the TPSMEA and TMEA Region and All-State Choirs. Students will also prepare solo and small ensemble repertoire for HC events with the option to participate in the TPSMEA Region and State Solo & Ensemble Contest. Chamber Singers performs independently and as a combined choir with Chorale for chapels, concerts, and HC events, with additional opportunities to perform for ISAS, and participate in national as well as international choir trips. Members of Chamber Singers rehearse during their regular class, and in select combined rehearsals with Chorale during FAB (typically 1-4 per month). Open to grades 9-12. Placement is by audition.

Piano Beginning

No prior musical experience is necessary to be successful. This class is designed for beginning students who want to learn how to play the piano and advance their skill level. Instruction is provided in piano technique, music reading, and introductory music theory and history. The aim of instruction is to develop the student's musicianship and assimilation of music without guidance. Open to all grades.

Piano Advanced

This course is designed and intended for students who have already taken Beginning Piano or have taken private piano lessons. Upon successful completion of this class, the student will have refined functional piano skills to play intermediate and advanced piano pieces. Requires instructor approval. Open to all grades.

Technical Theater

All forms of technical theatre are put into practice: scenic design, graphic design, construction, painting, lighting, sound, props, stage management, costuming, and makeup design. 10 leadership positions are available. Building and use of power tools (including welding) are taught in this course. This class supports all HC Black Box and Main Stage productions. This course requires instructor approval. Open to all grades.

Drama

This course provides a foundation in performance, public speaking, role-play, improv, character analysis, monologues, and pantomime. Students are challenged in all areas of creativity. The Acting theories of Stanislavsky, Hagen, Strasberg, and Mamet are introduced into classroom activities. Additionally, the history of the theatre is explored and examined. The aim of instruction is twofold (a) to develop a growth mindset and create an appreciation for theatre and (b) to foster a foundation of performing and acting skills. Open to all grades.

ARTS: FINE ARTS CONT.

Drama Advanced

This course provides students the opportunity to advance their acting skills. Students will take a deeper dive into how to "level up" their acting through the study of famous acting theorists. Stage Combat will be taught - single sword and unarmed. Additionally, the history of the theatre is explored and examined. Cooperative and independent acting is learned through the production and participation in A Night of One Acts in May. Open to grades 10-12. Prerequisite: Completion of Drama 1 or a transfer equivalent (instructor approval) is a requirement for this class.

Theater Production

This course is for students that would like to perform, stage manage or choreograph in two or more of the HC Theatreworks productions: the Fall Show, Winter Musical, Showstoppers, or the new Children's Theatre Show. The Children's theatre show is a show produced for pre-K-4th grade audiences - think Rumpelstilskin or Pinocchio. No previous drama classes are required. The class is used for rehearsals for all productions. Lead and Supporting Roles from main stage auditions of any stage production must enroll in this course. Student Choreographers and stage managers are encouraged to enroll. Open to grades 11-12, grade 10, with instructor approval.

Dance Introduction

This class provides a foundation in dance technique, terminology, choreography, performance, and dance history. Students explore various dance genres, including ballet, jazz, hip-hop, theater, and lyrical. Intro to Dance students performs one routine in the Spring Dance Concert. Open to all grades.

Dance Intermediate

A mid-level dance course focusing on achieving greater body awareness and control, improving technique and flexibility, understanding terminology and the choreography process, and becoming a more proficient and dynamic performer. Intermediate Dance students perform one routine in the Spring Dance Concert. The course can be taken a second time. Prerequisite: Successful completion of Intro to Dance or by instructor Approval.

Dance Repertory (DOXA)

Doxa Repertory Dance Company is a performance-based dance program showcasing the talents and strengths of its members through a variety of dance styles. Being selected as a member of Doxa is a privilege, and with it comes to a responsibility to oneself, fellow company members, and one’s craft. As Doxa members, students will continue to hone dance techniques while exploring the creative process of choreography and seeking opportunities to share that choreography with others. Audition only; open to all grades.

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Course Catalog

ARTS: FINE ARTS BLOCK 7:40-8:25 AM DAILY, FULL YEAR

Band

The Mustang Band offers a progressive learning situation, which gives the students the opportunity to find expression through musical performances on a musical instrument. Students will learn a variety of musical and rehearsal techniques necessary to elevate individual and group performances to an artistic level. The band members will have opportunities to participate in District/State Band Contests, Solo/Ensemble Contests, and performances at HC athletic events/concerts. Students are encouraged to repeat this class for four years. Rehearsals occur during the FAB, and extra sessions as needed. Open to all grades.

Chorale

Chorale is a vocal ensemble for beginning to advanced singers. Students will learn vocal technique and music reading skills and gain experience performing a wide variety of music. No prior musical experience is required to be successful in this class. Students have the opportunity to participate in the TPSMEA and/or TMEA All-State Choir audition process and the TPSMEA Solo and Ensemble Contest. Chorale performs independently and as a combined choir with Chamber Singers for various chapels, concerts, and HC events, with additional opportunities to perform for ISAS and participate in national as well as international choir trips. Members rehearse in class during Fine Arts Block. Open to grades 9-12; no audition required.

Orchestra

This course is open to students in grades 9 to 12 who have prior experience in violin, viola, cello, or string bass performance. The ensemble is comprised of students who possess exceptional performing skills and a strong desire to further their musical growth. Throughout the course, students will learn to analyze, perform, and create music in an orchestral setting, with a focus on understanding historical and cultural contexts through music. The course will encourage students to relate elements of music to other disciplines. Students will have the opportunity to participate in seasonal concerts, TMEA, TPSMEA, and ISAS contests, as well as national and international performance field trips. The course also emphasizes community involvement as an integral part of any school performing art. Private lessons are encouraged, and the course is open to all grades.

Drill Team: Silver Spurs

Come and dance with the Silver Spurs Drill Team! We will learn different dance styles, as well as prepare to perform at football games, pep rallies, and competitions. You will get lots of opportunities to perform throughout the year. Students will receive a Pass/Fail grade. One credit will be awarded and can be used to fulfill a Fine Art, P.E., or Elective requirement. Open to all grades.

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Course Catalog

ARTS: VISUAL

Video Technology (Fine Arts: FAB BLOCK 7:40-8:25 AM daily, full year)

This video/media class offers students hands-on training in filmmaking, digital video skills, and broadcast skills. Students learn advanced skills in using digital cameras, non-linear editing software, and broadcast studio equipment. The emphasis is on learning skills and techniques, including planning, producing, directing, editing, and performing for video. Team and individual productions are produced, as well as a daily video television program broadcast to the entire student body. The course emphasizes creating a flexible and creative working atmosphere stressing professional productivity and responsible and mature broadcasting standards. This course may be taken for 1 or 2 years. Prerequisite: application and instructor approval. Open to 11-12 grades.

Art Photography & Digital Media

This course helps students become well-rounded in the fundamentals of digital photography. Four areas of instruction are emphasized: how cameras work, how composition works, how lighting works, and how to use photo editing software. Students explore the Elements of Art and apply the Principles of Design in planning, developing, documenting, creating, and written critique of original works of art. Students receive instruction and demonstration and view samples of the desired outcomes at the beginning of each lesson. They sometimes explore outside the classroom and shoot assignments based on what they are learning. Classroom instruction includes daily reviews of photos students have shot the previous day(s). They discover what makes a successful photo and what does not. Students must provide their own DSLR camera; Open to all grade levels.

Art Photography & Digital Media Advanced

Advanced Photography & Digital Media is a second-year course that focuses on techniques that will aid students in expressing their ideas through various types of visual communication. Through photography, graphic design, and digital media, students will develop their creative concepts with Adobe Photoshop, Illustrator, and InDesign. Design principles, elements of art, history of art, and art criticism learned in Photography & Digital Media Arts level 1 will be built upon in Advanced Photography & Digital Media. Students will also build skills in critical thinking, problem-solving, and aesthetics. Students will have a digital portfolio that demonstrates a written summary of content, processes, and a photo essay, along with their best works of art. A digital portfolio is compiled, and work is displayed throughout the year. Students must provide their own DSLR camera. Prerequisite: Photography (introductory).

ARTS: VISUAL CONT.

Art 1 Drawing and Painting

Art 1 focuses on understanding, recognizing, and implementing the Elements and Principles of Art & Design in planning, developing, documenting, creating, and written critique of original works of art. Students will demonstrate this through the use of different media and techniques, including Drawing (graphite, inks, prisma), Painting (acrylic and watercolor), Printmaking, 3D hand building with clay, etc. Students learn how to critique artworks. Students also have a daily overview of Art History through warm-up activities completed in their sketchbooks. Students grow and acquire skills necessary to advance to different levels of courses offered. Open to all grade levels.

Art - Drawing and Painting Advanced

Advanced Art is a continuation of Art 1 and is for students who are seriously interested in the practical experiences of visual art and have developed a strong technical skill set. Students are expected to apply these skills creatively as they develop a portfolio of work representing their unique artistic vision. Students work with a variety of media and study techniques in art, including the relevance of past artists. Students build from previous art classes and grow while acquiring the skills necessary to make higher-level decisions in composition and individual project direction. Students experiment with the layering of mediums and available materials for individual expression. Students will have a portfolio that demonstrates a written skillful synthesis of materials, processes, and ideas along with their best works of art. This course can be taken for one or two years. Prerequisite: Art 1-Drawing and Painting and department approval. Students must be in grades 10-12.

Art 3-D/Ceramics

This is a foundational course using 3D and 2D materials with an emphasis on sculpture and ceramics. Students explore the Elements of Art and apply the Principles of Design in planning, developing, documenting, creating, and writing critiques of original works of art. Students will study alternative firing techniques, the pottery wheel, contemporary artists, and art history as they make cultural connections and explore realities, relationships, and ideas. Students develop artwork that demonstrates an understanding of a variety of media and problem-solving skills.

Art 3D/Ceramics Advanced

This course further develops three-dimensional skills through the use of advanced concepts and processing in clay and jewelry making, with a variety of other media. Students also take a look at how ceramics and sculpture are an integral part of outdoor art, installation, and conceptual art making. Students will have a portfolio that demonstrates a written skillful synthesis of materials, processes, and ideas along with their best works of art. This portfolio can be used towards their AP portfolio the following year. Prerequisite: Art - 3D/Ceramics and instructor approval.

ARTS: VISUAL CONT.

Studio Art AP

The AP Program offers three portfolios: AP Drawing (traditional drawing), 2-D Art and Design (design heavy drawing, painting, collage, digital drawing, and photography), and 3-D Art and Design (Use of any 3D materials such as clay, wood, and metal). The Studio Art Portfolio has a basic, two-section structure basic, two-section structure, which requires the student to show a fundamental competence and range of understanding in visual concerns (and methods). The portfolio asks the student to demonstrate a depth of investigation and process of discovery through the Sustained Investigation section. Students will submit images and writing to document their inquiry-guided investigation through practice, experimentation, and revision: The Selected Works section permits the student to select the works that best exhibit a synthesis of form, technique, and content. Students will submit works of art and design and writing to demonstrate skillful synthesis of materials, processes, and ideas: Acceptable works come from work done in class or on the students' own time and may cover a period longer than a single school year. Prerequisite: Any Advanced Art course and instructor approval. Sustained Investigation theme chosen and discussed with instructor at end of Advanced Art course with three pieces of art completed prior to the start of the school year. Open only to grades 11-12.

Integrated Media Productions

This course will include a focus on marketing, fine arts, and digital media technology. Students will gain skills in multimedia and interactive design, digital graphics, social media marketing, advertising, photography, and videography production, as well as product development and delivery. Students must have their own digital 35mm camera. They will apply the principles and elements of design as they relate to each area of content and participate in an end-of-year product identity project that will include product design, logos and packaging, website design, video and audio commercials, and social media advertising. This course is helpful for those interested in marketing, graphic design, or business. Prerequisite: department approval, and priority is given to students who have taken a visual arts course; for students in grades 10-12.

Yearbook (includes Journalism)

Students are responsible for planning and publishing the yearbook using journalism techniques, computer software programs, digital technology, and photography. The course exposes students to the information and techniques required to produce all necessary copies, photos, and layouts for the publication of a yearbook. As the yearbook is produced, sales and business management practices are developed. This course may be taken for 1-3 years. Prerequisite: Instructor approval. Open to grades 10-12.

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Course Catalog

ENGLISH

English 1
Students will review and master grammatical concepts, deepen vocabulary, develop strong, diverse writing skills, and learn to read critically. Specifically, students examine common characteristics of various genres and identify strategies and skills employed in the analysis of a variety of genres of literature, including novels, plays, short stories, poetry, and nonfiction selections. Students also consider how the voice works in writing with a variety of audiences.

English 1 Honors
This course focuses on the same freshman skills with a specific emphasis on close reading skills also applied to ongoing reading in their books of choice. Students will read in and out of class to ensure they finish the shared readings and their independent reading. Texts in this class cover a variety of genres of literature, including novels, plays, short stories, poetry, and nonfiction selections. Students also apply ideas from literature to their own writing by specifically considering their own unique voice. This course will offer the basics of Socratic Seminar as students will practice structured discussions. Requires department approval.

English 2
Students will expand their vocabulary, review grammar usage, and improve their writing and reading comprehension skills while studying world literature, short stories, poetry, and non-fiction texts. Students progress in identifying and analyzing others' ideas by writing a well-developed research paper in the correct MLA format. Classes are discussion-based, specifically through Socratic Seminars, and require students to discuss the diverse perspectives expressed through literature.

English 2 Honors
The Sophomore Honors course in English continues to strengthen students' skills in vocabulary, grammar usage, writing, and reading comprehension. The honors student strives towards these goals as they study world literature and continue their personal reading journey through their books of choice. Students progress in identifying and analyzing an author's style and use of literary devices and writing a well-developed research paper in the correct MLA format. Additionally, this class focuses heavily on discussions to develop the students' critical thinking and verbal skills. Requires department approval.

ENGLISH CONT.

English 3

This course provides students with a survey of American literature, fiction, and nonfiction, emphasizing critical reading and writing. Students examine the major themes and central conflicts in and shaped by various genres, including short and long fiction, poetry, and essays. Emphasis is placed on close reading skills, vocabulary development, and rhetorical and literary analysis. In addition, the course also serves as a composition course focusing on developing writing skills, including research, argumentative, literary analysis, and creative and reflective writing.

English 3 AP (Language and Composition)

This course aligns with an introductory college-level composition course. Students will become skilled readers of prose written in various rhetorical contexts and skilled writers who compose for various purposes. Their reading and writing will make students aware of the interaction among a writer's purposes, reader expectations, and an author's propositional content, as well as the genre conventions and the resources of language that contribute to effective writing. Students are required to take the May AP exam. Requires department approval.

English 4 Seminar 2: Society, Comedy, Tragedy

Students examine drama classified as comedy and tragedy to explore the philosophical and literary differences in both classical and modern times. Because each text is thematically focused on the relationship between society and the individual, students will be challenged to reflect on the relationship's influence in shaping society. Through a Socratic forum, the student will use the study of drama, art, and film, along with written expression, to define relationships and societal obligations.

English 4 Seminar 3: The Heroic Cycle: Ancient and Modern Heroes

Students examine the role of myth in history, culture, and consciousness. The course presents components of African, Norse, Greek, Roman, Japanese, and modern mythologies. A focus on close reading, writing, and defending a position highlights the seminar. In addition to written texts, students engage with film, stage, and other forms of media, allowing for connection across time, culture, and genre. The course identifies critical texts in the genre and myths and stories developed long after the originals and how these secondary stories affect modern audiences.

English 4 AP (Literature and Composition)

This course aligns with an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of how writers use language to provide meaning and pleasure. As they read, students consider a work's structure, style, themes, and use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works. Students are required to take the May AP exam. Requires department approval.

Course Catalog

WORLD LANGUAGES: SPANISH

Spanish 1

This first-year course introduces students to the Spanish language and the cultures of Spanish-speaking countries while developing skills in aural comprehension, speaking, reading, writing, and cultural and geographical awareness. Through daily oral and written practice, students learn to integrate the basic vocabulary and grammatical structures they have learned. Students come to understand short utterances, respond orally with known material, understand simple text, and ultimately engage in basic conversation. Open to all grades.

Spanish 2

The second-year course reviews and enhances the basic skills acquired in Spanish 1. Students engage in frequent oral and written exchanges of learned material. To increase the accuracy of expression, special emphasis is given to the components of language, including proper grammar and a wider vocabulary. Students learn the preterite, imperfect, and progressive verb tenses as well as the use of reflexive verbs. Incoming freshmen desiring placement in Spanish 2 or 2 Honors must take a competency test to confirm appropriate course placement. Open to all grades.

Spanish 2 Honors

This course begins with a review of vocabulary and grammar that students studied in Spanish 1. The course builds upon this foundation by strengthening students' ability to communicate in Spanish while also engaging in an in-depth study of grammar. Students develop proficiency by focusing on the skills of reading, writing, listening, and speaking, while also learning to appreciate many aspects of Hispanic culture. Open to all grades with department approval.

Spanish 3

The goal of this course is to develop accuracy and proficiency in listening, speaking, reading, writing, and comprehension skills. The Hispanic culture is explored through Spanish books, audio-visual materials, periodicals, and class discussions as well as individual and collaborative written and oral projects. All basic grammar structures and all verb tenses in the indicative and subjunctive moods are completed and reinforced. Students are provided with a variety of listening and oral practice drills to improve meaningful communication using the various verb tenses learned. In addition, students complete research projects focusing on daily life in Spanish-speaking countries. Open to all grades with department approval.

WORLD LANGUAGES: SPANISH CONT.

Spanish 3 Honors

This course begins with a review of the vocabulary and grammar that students studied in Pre-AP or Honors Spanish 2. The course builds upon this foundation by strengthening students' ability to communicate in Spanish while also engaging in an in-depth study of grammar. Students develop their proficiency by focusing on the skills of reading, writing, listening, and speaking while also learning to appreciate many aspects of Hispanic culture. This course prepares students to enter AP Spanish Language and requires department approval.

Spanish 4 Conversation and Culture

Conversational Spanish 4 is for the student who took Spanish 3 and wishes to continue to speak and practice conversational Spanish. This course is designed to strengthen and enhance students' ability to use Spanish in a variety of formal and informal contexts. The course serves as a thorough grammatical review to reinforce the rules, conjugations, and nuances of the Spanish language. Spanish 4 Conversation is taught completely in Spanish, strengthening students' ability to communicate in Spanish. Students develop oral proficiency by focusing on skills of listening and speaking while learning to appreciate many aspects of Hispanic culture. Open to all grades and requires department approval.

Spanish 4 AP

This is a rigorous course taught exclusively in Spanish that requires students to improve proficiency across the three modes of communication. The course focuses on the integration of authentic resources including online print, audio, and audiovisual resources, as well as traditional print resources including literature, essays, and magazine and newspaper articles with the goal of providing a rich, diverse learning experience. Students communicate using advanced vocabulary and linguistic structures as they build proficiency in all modes of communication toward the pre-advanced level. Requires department approval.

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Course Catalog

WORLD LANGUAGES: LATIN

Latin 1
This course introduces students to Classical Latin–Latin as it was spoken in the Republic and Early Empire. Students develop their vocabulary in both Latin and English by focusing on English derivatives, and acquiring an understanding of inflected grammatical structures such as declensions, conjugations, and agreement among parts of speech. Students augment these language skills by deepening their understanding of the values and history of Roman civilization through projects and other creative endeavors. Open to all grades.

Latin 2
This second-year course builds on the skills learned in Latin I by introducing new grammatical constructions and lexical features such as the subjunctive mood and participles. Through daily readings, students deepen their reading comprehension and translation skills while developing a deeper understanding of Roman culture and literature. Students learn to express their knowledge in various modes, including creative methods and are eligible to participate in the activities of the Junior Classical League. Open to all grades.

Latin 3 Honors
This third-year course builds on the grammatical and lexical skills learned in Latin II while expanding students' linguistic agility by introducing new constructions and uses for subjunctives, participles, gerundives, and other Latinate phenomena. Through daily readings, translation, and exercises, students also gain a deeper knowledge and understanding of Roman culture and literature, and are eligible to participate in the activities of the Junior Classical League. Requires department approval.

Latin 4 Honors
This course uses the foundational skills students have learned throughout Latin I-III in order to read original Latin texts with only brief notations and vocabulary aides. Students learn to read and scan Latin poetry, as well as analyze rhetorical devices and nuances of meaning in both poetry and prose forms. Requires department approval.

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Course Catalog

WORLD LANGUAGES: MANDARIN

Mandarin 1

Mandarin 1 provides an overview of the Chinese language and culture. The course includes mastering the basic rules of Pinyin pronunciation and daily conversation, focusing on everyday listening and speaking ability, becoming familiar with the basic stroke guidelines for writing Chinese characters and becoming familiar with the basic functional language for communication. Open to all grade levels.

Mandarin 2

Mandarin 2 includes mastering the basic rules of Pinyin pronunciation and daily conversation, focusing on everyday listening and speaking ability, becoming familiar with the basic stroke guidelines for writing Chinese characters, and becoming familiar with the basic functional language for communication. Students are also expected to be able to apply leadership lessons and complete a project related to their daily life experience.

Mandarin 3

Mandarin 3 is an advanced level of listening, speaking, reading skills, and intermediate writing. Narration and description of concrete topic areas will feature linked sentences and extended discourse, including narration in past, present, and future modes. In reading, students will be able to understand the main idea plus many supporting details in a wide range of simple expository texts. Writings focus on linked prose on survival issues and will be extended to include simple expository prose on concrete topics. Students are also expected to be able to apply leadership lessons and complete a research project related to their daily life experiences. Requires instructor approval.

Mandarin 4 Conversation and Culture

Students will use extended language to talk about school life, after-school life, the technology world, part-time work, relationships, environmental issues, and social issues. They will be able to hold conversations, make comments and express themselves with confidence. Students are also expected to learn and be able to apply leadership lessons. In addition, students will complete a research project related to their daily real-life experiences. Requires instructor approval.

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Course Catalog

SOCIAL SCIENCES

World History

This course includes the study of the challenges and achievements of humanity from approximately 1450 to the present. A brief "Foundations" unit introduces the class. It offers a broad global perspective from a Christian Worldview, helping students prepare for their calling in our global community. Students develop and sharpen 21st-century critical thinking skills, including reading for comprehension, evaluating sources of information, and writing analytical essays. Required of all ninth-grade students.

World History and Geography Honors

This advanced-level course begins with a brief "Foundations" unit, then emphasizes world history since c. 1450. Students will develop essential historical content and skills to prepare them for AP history coursework, including AP World History and AP US History. These skills are designed to help the student in college, their career, and their civic life. The course is built around three enduring ideas: 1) History is an interrelated story of the world; 2) History and geography are inherently dynamic, and 3) Historians and geographers are investigators. Open to ninth graders with department approval only.

World History AP

The course begins c. 1200 and continues to the present. Added emphasis is placed on analyzing primary historical sources, understanding patterns of continuity and change over time, making connections between and among societies, and essay construction. Taught on a more demanding level than World History, this course is designed primarily for sophomores who wish to pursue college credit; however, upperclassmen may also participate. Requires student application and instructor approval; open to students in 10-12 grade.

US History

This course provides an overview of the United States' past, starting with Reconstruction and progressing to present times. The course examines political, social, economic, cultural, and intellectual forces that have contributed to the development of America. Students are expected to develop an understanding of the forces that shape history as well as the role historians play in the interpretation of evidence. Required of all 11th graders.

US History AP

This college-level survey for juniors chronicles the social, political, economic, intellectual, and religious events that have shaped U.S. history from 1491 to the present. This course emphasizes the development of critical thinking skills including analysis, inference, evaluation, and essay writing. Students are required to take the AP exam administered in May. Requires department approval.

SOCIAL SCIENCES CONT.

Government and Economics

During the fall semester, students examine the structure of the United States government as set forth in foundational documents such as the Declaration of Independence and the Constitution. The interaction of the three branches of government is covered with an examination of the causes and effects of partisan politics. The spring semester is devoted to the study of Economics. Students are introduced to the concepts of opportunity cost, types of economic systems, and the laws of supply and demand. An emphasis is placed on the practical application of economics for the individual, to help students make informed and responsible financial decisions. Required of all 12th graders.

Government/Politics AP and Non-AP Economics

Using a non-partisan approach, this college-level course gives senior students an analytical perspective on government and politics in the United States. AP Government is a one-semester course that includes an in-depth study of the Constitutional underpinnings that have shaped our nation, the roles of the three branches of government, the formation of public policy, and the rights and responsibilities of citizens--particularly Christians--in the United States. The curriculum also focuses on the interplay of institutions, political parties, interest groups, and the media. Students learn to evaluate historical documents, assess media coverage of current events, and analyze textbook sources. Students are required to take the AP exam in May. One semester of non-AP Economics is taught in the spring. Students are introduced to the concepts of opportunity cost, types of economic systems, and the laws of supply and demand. An emphasis is placed on the practical application of economics for the individual, to help students make informed and responsible financial decisions. Prior completion of either AP World History or AP US History is strongly recommended for those considering AP US Government. Requires department approval.

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Course Catalog

MATH

Algebra 1

Algebra 1 introduces 2 variable equations, linear and quadratic functions and polynomials. The majority of the course is designed around linear functions. The following topics will be covered during this course: solving for an unknown, solving and graphing linear equations and inequalities, solving and graphing systems of equations and inequalities, multiplying and factoring polynomials in preparation for solving quadratic equations and solving and graphing quadratic equations. Students will be asked to manipulate and interpret these functions in real-world scenarios.

Algebra 1 Honors

Solving and graphing linear equations, systems of linear equations, and linear inequalities will be applied to many different areas, in Honors Algebra 1. Solving and applying graphing quadratic and exponential functions are learned as well. Students develop fluent mathematical thought processes at a pace that prepares them for the rigor of the advanced placement exams in mathematics. Admission is based upon approval from math placement testing.

Geometry

This course emphasizes the study of the properties and applications of common geometric figures in two and three dimensions. It includes the study of angles, lines, triangles with multiple area formulas, congruence, and similarity, circles, areas of plane figures, surface areas and volumes of solids, and transformations. Additionally, students will learn right-triangle trigonometry. Inductive and deductive thinking skills are used in problem-solving situations, including applications to the real world. It also utilizes writing proofs to solve or prove properties of geometric figures. Students will also become proficient in the use of a graphing calculator. For entering freshmen, admission is based upon completion of Algebra 1 and approval from HC math placement testing.

MATH CONT.

Geometry Honors

Honors Geometry is fast-paced and emphasizes the study of the properties and application of common geometric figures in two and three dimensions. It includes the study of angles, lines, triangles with multiple area formulas, congruence, and similarity, circles, areas of plane figures, surface areas and volumes of solids, and transformations. Students will also learn right triangle trigonometry, followed by the Law of Sines and the Law of Cosines. Inductive and deductive thinking skills are used in problem-solving situations, and applications to the real world are stressed. It also emphasizes writing proofs and using logic to solve or prove properties of geometric figures. Students will study the properties of Circles and end the year with basic statistics. Students become proficient in the use of a graphing calculator. Prerequisites: placement testing and approval of the math department for new students (or approval of HC's Algebra 1 Instructor for current HC students).

Algebra 2

This course seeks to develop a deep understanding of functions and relations, focusing on linear, quadratic, polynomial, exponential, logarithmic, radical, and rational functions. The course will introduce more advanced algebra concepts such as matrices, and imaginary and complex numbers, and will also cover some combinatorics and statistics. Continual mathematical emphasis will be placed on problem-solving, real-world connections, and communication of mathematical ideas. Technology, such as a graphic calculator, will be used as a problem-solving tool. Prerequisites: Taken after completion of Geometry.

Algebra 2 Honors

This course seeks to develop a deep understanding of functions and relations, focusing on linear, quadratic, polynomial, exponential, logarithmic, radical, and rational functions. The course introduces more advanced algebra concepts such as matrices, and imaginary and complex numbers, and also covers some combinatorics and statistics. Continual mathematical emphasis is placed on problem-solving, real-world connections, and communication of mathematical ideas. Technology, such as a graphic calculator, is used as a problem-solving tool. Prerequisites: Approval of Geometry Instructor.

Pre-Calculus

In Pre-Calculus, students journey through each of the following families of functions: Linear, Quadratic, 3rd degree and higher Polynomials, Rational, Exponential, Logarithmic, and Trigonometric functions. These families of functions are explored algebraically as well as graphically with and without the use of technology. This course aims to improve coherent mathematical thought processes as students work through difficult problems in real-world contexts. It is designed to give students the algebraic mastery required to succeed in college-level precalculus and even college-level calculus (AP Calculus AB). Prerequisites: completion of Algebra 2.

MATH CONT.

Pre-Calculus Honors

Honors Pre-Calculus is a rigorous course designed to prepare students for AP Calculus AB and BC. The analysis of functions is extended to polar and parametric varieties and an emphasis is placed on the geometric applications of vectors. Trigonometry is developed from right triangle definitions and extended to all angles via the unit circle. Geometric and arithmetic series is studied in applications. Students will engage in project-based investigations and extend their understanding through thorough proof-based approaches. Pre-Requisites: Completion of Algebra II or Honors Algebra II and recommendation by Algebra II instructor.

Finite Math & Statistics

This course is for the senior student who completed Algebra II and may need another year of math before entering Pre-Calculus. The purpose of Finite is to review algebra concepts and to introduce finite math concepts during the first semester. The finite portion of the course prepares students for Finite Math and College Algebra. The purpose of Introduction to Statistics is to introduce data exploration, sampling techniques, data collection (but not simulation), simple probability, normal distribution, and linear regression. Introduction to Statistics is preparation for college-level Statistics. Available to 12th-grade students.

Calculus Business

This course presents a survey of differential and integral calculus including the study of functions and graphs from a calculus viewpoint as applied to problems in business and the natural and social sciences. Prerequisites: Approval of Pre Calculus Instructor.

Calculus AB / AP

AP Calculus includes two courses, AP Calculus AB and AP Calculus BC, which were developed in collaboration with college faculty. The curriculum for AP Calculus AB is equivalent to that of a first-semester college calculus course, while AP Calculus BC is equivalent to a first-semester college calculus course and the subsequent single-variable calculus course. Calculus BC is an extension of Calculus AB rather than an enhancement; common topics require a similar depth of understanding. Both courses are intended to be challenging and demanding, and each is designed to be taught over a full academic year. Prerequisites: Completion of Pre-Calculus or Pre-AP/Honors Pre-Calculus and approval of Pre-Calculus instructor.

Calculus BC / AP

AP Calculus includes two courses, AP Calculus AB and AP Calculus BC, which were developed in collaboration with college faculty. The curriculum for AP Calculus AB is equivalent to that of a first-semester college calculus course, while AP Calculus BC is equivalent to a first-semester college calculus course and the subsequent single-variable calculus course. Calculus BC is an extension of Calculus AB rather than an enhancement; common topics require a similar depth of understanding. Both courses are intended to be challenging and demanding, and each is designed to be taught over a full academic year. Prerequisites: Completion of Pre-AP/Honors Pre-Calculus and approval of Pre-Calculus instructor.

MATH CONT.

Calculus 3 - Online in 2023-24

This course will be taken online as a university course and supervised by the AP Calculus instructor who will also choose the appropriate university course. The course covers differential, integral, and vector calculus of functions of more than one variable. Multivariable Calculus is used extensively in both natural and social sciences but is also an exciting and beautiful subject in its own right, a true adventure in many dimensions. Topics include parametrization of curves and surfaces; directional derivatives and gradients; optimization and critical point analysis, including the method of Lagrange multipliers; and integration over curves, surfaces, and solid regions using Cartesian, polar, cylindrical, and spherical coordinates. We extend the Fundamental Theorem of Calculus to multiple dimensions, and the course will culminate in the three famous theorems of Green, Stokes, and Gauss. Students will use technology to explore 3D surfaces and space curves and may have the opportunity to explore 3D printing. The student will pay the cost of enrolling in the course. Prerequisite: AP Calculus BC and instructor approval.

Statistics AP

The purpose of the AP Statistics course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data, all kinds of data from the worlds of sports, politics, nature, nutrition, psychology, government, business, music, fine arts, etc. Students are exposed to four broad conceptual themes: (1) exploration data: describing patterns and departures from patterns; (2) sampling and experimentation: planning and conducting a study; (3) anticipating patterns: exploring random phenomena using probability and simulation; and (4) statistical inference: estimating population parameters and testing hypothesis. Prerequisites: Completion of or concurrent enrollment in Pre-Calculus and approval of Pre-Calculus Instructor.

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Course Catalog

SCIENCE

Biology 1

This course includes laboratory work, the study of specimens, projects, and a thorough understanding of scientific inquiry consistent with NGSS practices. Course content encompasses interrelationships of living things, levels of biological organization, cellular biology, biochemistry, genetics, evolution, and ecology. Students should be prepared to conduct projects and write formal lab reports. Real-world application is a daily objective as well as the use of technology when applied to increase student achievement. For 9th-grade students.

Biology 1 Honors

This course provides a study of living things through laboratory experiences and investigative processes. Students use scientific methods during investigations and make informed decisions using critical thinking and problem-solving skills. Areas of study will include cell biology, microbiology, biochemistry, biotechnology, genetics, evolution, and ecology. Laboratory procedures, reporting skills, and applying biological concepts to novel situations will be emphasized,. As an honors course, the concepts are similar to the Biology 1 course but are taught on a higher level, in greater detail, and at a faster pace. Outside reading and research are expected. Students should be self-motivated to complete assignments. For 9th-grade students, based on department approval

Biology AP

AP Biology is a college-level course designed to challenge students to extend their knowledge of biological theory and processes beyond the level of introductory science classes. The primary emphasis in AP Biology is placed on understanding concepts rather than memorizing terms and technical details. The laboratory component of the course consists of 12+ laboratories with specific objectives produced by the AP Biology Development Committee to provide a standard and these recommended labs are considered as basic introductions to, springboards into, further experiments, studies, or independent projects. Prerequisites- Biology with B+ or better average fall and spring term or Biology Honors plus Chemistry with A average fall and spring term (or Chemistry Honors); approval required. Primarily for students in grade 12.

SCIENCE CONT.

Chemistry

This course covers the fundamental concepts of physical chemistry. Topics include the properties of matter, atomic structure, chemical bonding, and the mathematics of chemical investigation. Laboratory procedures, classification, measurement skills predicting outcomes, and applications of chemistry in daily life will be emphasized. Asking questions, making inferences, developing testable hypotheses, designing experiments, making deductions from observations, and reaching conclusions are some of the problem-solving methods students learn to use. Required of all 10th-grade students. Prerequisite: Algebra 1.

Chemistry Honors

This is a rigorous course requiring dedication and hard work. Students may take Honors Chemistry if they earned a 'B+' average every quarter in their freshman math course. Recommendations by previous science and math instructors will also be considered. Students who fall just short of the grade requirement may ask for special consideration from the science department. Department approval is required.

Chemistry AP

AP Chemistry is a two-semester intensive laboratory-based college-level course designed for motivated junior and senior-level students. This course is equivalent to the first year of college-level chemistry. All topics from chemistry are reviewed and extended. Additional topics include hybrid orbital theory, thermodynamics, kinetics and reaction mechanisms, nuclear chemistry, and organic chemistry. This course strongly emphasizes the theory behind the results. Students are expected to explain their observations in light of topics covered in class. Inquiry-based learning and problem-solving techniques are emphasized. Prerequisites - Honors Chemistry and department approval.

Geology Meteorology Oceanography (11th or 12th)

Geology, Meteorology, and Oceanography (GMO) involves the study of the earth and the processes that shaped it and continue to change it over time. Geology topics include the study of the earth (its structure and atmosphere), the sun, erosional forces (landslides, mudslides, avalanches, monsoons), continental drift and plate tectonics, volcanoes, earthquakes, rocks, minerals, and topographic maps. Meteorology topics include the atmosphere, hurricanes, weather maps, fronts and symbols, lightning, thunderstorms, and tornadoes. Oceanography topics include the five oceans, ocean features, pollution, currents, chemistry, coastal erosion, tsunamis, plants and animals of the ocean, El Nino and La Nina, and global warming. Prerequisites: Chemistry or Chemistry Honors.

SCIENCE CONT.

Anatomy & Physiology (11th or 12th)

Human Anatomy and Physiology provides students with a basic understanding of the structure and functions of the human body. The course will include memorization of bones and muscles, an understanding of major body systems, homeostatic imbalances, and lifestyle choices that promote wellness including nutrition and exercise. All students actively participate in the dissection of lab specimens. Prerequisites: Chemistry or Chemistry-Honors/ Biology.

Engineering In Robotics

Students in this course will participate in a project-based curriculum that engages students in active, hands-on learning to challenge, motivate, and inspire students. Students experience and apply the engineering design process to compete in different challenges - building, programming, and adapting robots to solve problems and earn points. Students will learn a version of the programming language C, program sphero Bolt robots, work with VEX robotics parts, and collaborate in teams, integrating HC's Leadership standards. No prior robotics experience is required. No prerequisites. Seniors may use this course as a fourth or fifth science credit. Juniors may take the course as an additional science option, thereby graduating with five science credits. Engineering cannot replace the junior science course. Open to grades 10-12.

Physics

In this course, students investigate motion, forces, work and energy, momentum, oscillations, waves, sound, optics, and electricity. This course provides students with a conceptual framework, factual knowledge, and analytical and scientific skills, as well as extensive application of mathematical concepts and principles of physics phenomena. Prerequisites: Completion of Chemistry or Chemistry Honors and completion of Algebra II with at least 80% in Sem 2. For 11th or 12th grade students.

Physics Honors

Students will investigate motion, forces, work and energy, momentum, radial motion, gravitation, oscillations, waves, and electricity. Honors Physics is differentiated from Physics by both depths of coverage in a given topic and the breadth of coverage of concepts. Students will cover more concepts within a given content unit, cover additional units, and be responsible for more frequent independent assignments and investigations. Prerequisites: Completion of Chemistry or Chemistry Honors and completion of or concurrent enrollment in Pre-Calculus or Pre-Calculus Honors.

SCIENCE CONT.

Physics C: Mechanics AP

A college physics course that is taught over two semesters with an emphasis on problem-solving, is designed for students planning on majoring in the physical sciences or engineering. This course provides instruction in each of the following six content areas: kinematics; Newton's laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Problems are solved using calculus, with the use of calculus increasing as the course progresses. Prerequisites: Physics Honors and enrolled or completed AP Calculus AB or BC.

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Revised: April 4, 2023