



SEQUOYAH
SCHOOL

A K-12 independent school

2018 HIGH SCHOOL 2019 CURRICULUM GUIDE

SEPTEMBER 2018

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SEQUOYAH SCHOOL

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LEARNING AT SEQUOYAH

Sequoyah's high school offers a rigorous college preparatory curriculum in a student-centered, experiential, and collaborative learning environment. Practicing the values articulated in Sequoyah's Habits of Mind, students and teachers thoughtfully and creatively explore and improve their world.

Teachers encourage all students to share their backgrounds and individual interests so that their unique perspectives enrich the educational experience. Together, students and teachers embrace a process of learning that values diversity, and social and environmental stewardship. The trusting relationships formed through the school's collaborative culture allow students to feel comfortable sharing an opinion or new idea. It is a culture that values intellectual risk-taking, where one can learn from failure, confidently seek out feedback, and develop a greater sense of ownership of one's learning. In this way, we help our students understand that intellectual and creative successes come from patience, persistence, and hard work.

Sequoyah's program is based on foundational theories of progressive education and continues to be informed by current research on the science of learning. In the following pages you will find a curriculum designed to inspire curiosity and applied learning.

Academic Program

Sequoyah's modular schedule provides ample time for a rich and focused learning experience. Designed to support student engagement, individual attention, and a range of course selections, the schedule offers sufficient time for extensive field studies – real-world experiences beyond the classroom that reinforce deeper understanding of academic skills and concepts.

With this schedule, feedback can be more detailed and frequent. The modular schedule also offers increased choices for required courses, allowing students more options for exploring their interests and advancing their studies. Nightly homework becomes a natural part of the project-based work done during the day, limiting the amount of stress that could result from doing homework in 5 or 6 subjects each night.

Sequoyah Advanced Studies (SAS) Program

Sequoyah students are encouraged to rise to the challenge of the Sequoyah Advanced Studies (SAS) program. Courses are designed by Sequoyah faculty to meet the highest standards of college admissions offices and are recognized by the University of California system to meet honors-level criteria.

Advisors play an important role in guiding students each year to map out course selections that meet the prerequisites for SAS courses.

Sequoyah Advanced Studies courses offered for the current school year are:

SAS Calculus	SAS Making Ends Meet:	SAS Visual Art
SAS Higher Math	Women & Capitalism	SAS Music Production
SAS Biology	SAS Transcendentalism	SAS History of Popular Music
SAS Chemistry	SAS The Undiscovered Country	SAS Shakespeare
SAS Grand Challenges of Ecology	SAS American History	
SAS Physics	SAS Autocracy and Totalitarianism	
SAS English: Allegory & the Novella	SAS Spanish 4 & 5	

Course Load*

Students can complete all the required courses, taking no more than 4 courses during any given 5-week segment or MOD – 3 required courses + 1 elective course. The following chart represents the typical course load for each year.

9th Grade	10th Grade	11th Grade	12th Grade
6 CURRICULAR COURSES	5-6 CURRICULAR COURSES	5-6 CURRICULAR COURSES	4-6 CURRICULAR COURSES
<ul style="list-style-type: none"> • Foundations Mathematics (1, 2 or 3) • Conceptual Physics • Humanities I (English & History) • Spanish (1, 2 or 3) • Visual or Performing Arts (3 MODs) • Advisory • Social Innovation (SIP) • Sport or P.E. option 	<ul style="list-style-type: none"> • Mathematics • Chemistry • Humanities 2 • Spanish (2, 3, 4) • Elective • Advisory • SIP • Sport or P.E. option 	<ul style="list-style-type: none"> • Mathematics • Bio or SAS Bio • English elective • Spanish (unless level 3 completed) • History elective (11th or 12th grade) • Advisory • SIP Impact Project • Sport or P.E. option 	<ul style="list-style-type: none"> • English elective or SAS English 4 • Electives • Advisory • SIP Internship • Sport or P.E. option

*The number of courses, not credits. Note: Humanities is a double-credit course for English and history.

School Year

The school year is divided into seven modules (MODs), each lasting approximately five weeks. During each MOD, a student takes three required courses per day (85-minute block), plus one elective course* (45-minute block).

One of the seven MODs each year serves as dedicated time for camping trips, social innovation projects, international expeditions, and internships. The year includes a five-day exhibition week at mid-year and year's end. There is a new student orientation at the beginning of the 9th grade year.

1 School Year = 7 MODs						
MOD 1 5 Weeks	MOD 2 5 Weeks	MOD 3 5 Weeks	MOD 4 5 Weeks	MOD 5 5 Weeks	MOD 6 5 Weeks	MOD 7 5 Weeks
3 Required Courses + 1 Elective Course	Camping Trips & Social Innovation Projects					

1 Course = 1 Block per Day				
A BLOCK	B BLOCK	C BLOCK	+	Z BLOCK
85 Minutes	85 Minutes	85 Minutes		45 Minutes
1 Required Course	1 Required Course	1 Required Course		1 Elective Course

* Students are required to take elective courses or independent study during Z Block. See page 8 for course requirements.

Weekly Schedule

Each day, Monday through Thursday, students attend classes in four time blocks. The A, B, and C blocks are required courses, the Z blocks are elective courses. The Friday schedule includes All-School or Grade-Level Meetings, three 45-minute blocks (A, B, C), and a 2.5-hour block for the Social Innovation Program (SIP) which allows time for both students and teachers to take off-campus trips.

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:15	MORNING MEETING Mindful Awareness Practice & Dialogue				A Block 8:15-9:05
8:40 - 10:05	A Block	A Block	A Block	A Block	B Block 9:10 – 10:00
					BREAK
10:10 - 10:45	Advisory	Math/Spanish Review Or Study Hall/Office Hours	Advisory	Advisory & Clubs	C Block 10:15 – 11:05
	BREAK				
10:55 - 12:20	B Block	B Block	B Block	B Block	FLEX Block 11:10 – 12:00 Stewardship, SIP, or All-School Meeting
	LUNCH				
1:00 - 2:25	C Block	C Block	C Block	C Block	Social Innovation Program
2:30 - 3:15	Z Block	Z Block	Z Block	Z Block	
3:15	DISMISSAL				
3:30 - 5:00	Sequoyah Sports & After-School Programs				
5:00	CAMPUS CLOSED				

Course Planning

Prior to each five-week MOD, students spend time in advisory planning their future courses. Students and their parents may also meet with the student's advisor, and in some cases the college counselor, to make final decisions with the student's long-term interests and goals in mind.

Sample 9th Grade-Year Course Plan

ORIENTATION	MOD 1	MOD 2	MOD 3	EXHIBITION	MOD 4	MOD 5	MOD 6	MOD 7	EXHIBITION
Orientation + Camping Trip to High Sierras	Foundations 2: Geometry			Exhibitions of Learning + Talking Leaves Presentations	Conceptual Physics			Backpacking & Cultural Immersion + Social Innovation Deep Dive	Exhibitions of Learning + Talking Leaves Presentations
	Advisory & Clubs + Spanish Review				Advisory & Clubs + Math Review				
	Humanities I (English & History)				Humanities I (English & History)				
	Graphic Design	Music – Gryphon Ensemble			Spanish 2				
	Social Innovation Program				Social Innovation Program				
	Music Technology	Arduino Robotics			Photography	Latin American Film			
	Cross Country		Basketball			Swimming			

Sample 10th Grade-Year Course Plan

FIELD STUDIES	MOD 1	MOD 2	MOD 3	EXHIBITION	MOD 4	MOD 5	MOD 6	MOD 7	EXHIBITION
Camping Trip to High Sierras	Foundations 3: Algebra 2			Exhibitions of Learning + Talking Leaves Presentations	Social Innovation Program + International Expedition	Chemistry			Exhibitions of Learning + Talking Leaves Presentations
	Advisory & Clubs					Advisory & Clubs			
	Humanities 2 (English & History)					Humanities 2 (English & History)			
	Improvisation	Drawing I				Spanish 3			
	Social Innovation Program					Social Innovation Program			
	Brain & Cognitive Science	Technology – Java Script Animation				Intro to Design Thinking	Theater – Spring Play		
	Dance		Basketball			Volleyball			

Sample 11th Grade-Year Course Plan

FIELD STUDIES	MOD 1	MOD 2	MOD 3	EXHIBITION	MOD 4	MOD 5	MOD 6	MOD 7	EXHIBITION
Camping Trip to High Sierras	SAS Biology*			Exhibitions of Learning + Talking Leaves Presentations	Pre-Calculus			Social Innovation Impact Project + Student Leader for 9th-Grade Camping Trip	Exhibitions of Learning + Talking Leaves Presentations
	Advisory & Clubs				Advisory & Clubs				
	English 3: American Literature				SAS American History*				
	Graphic Novel	Music – Gryphon Ensemble			SAS Spanish 4*				
	Social Innovation Program				Social Innovation Program				
	Mathematicians	Chicanx History & Culture			Life in the Universe	Geology of the Southwest			
	Debate		Mountain Biking			Tennis			

Sample 12th Grade-Year Course Plan

FIELD STUDIES	MOD 1	MOD 2	MOD 3	EXHIBITION	MOD 4	MOD 5	MOD 6	MOD 7	EXHIBITION	
Camping Trip to High Sierras	SAS Calculus*			Exhibitions of Learning + Talking Leaves Presentations	SAS English: Allegory & the Novella		Social Innovation Internship	Modern Africa	Exhibitions of Learning + Talking Leaves Presentations	
	Advisory & Clubs				Advisory & Clubs			Advisory		
	SAS Physics*				Middle East			Autocracy		
	SAS Studio Art*				Spanish 5: Literature			Spanish 5: Literature		
	Social Innovation Program				Social Innovation Program			SIP		
	Gryphon Media				Gryphon Media			Yearbook		
	Cross Country				Archery			Swimming		

* SAS = Sequoyah Advanced Studies. See page 3.

ACADEMIC EXPECTATIONS

Graduation Requirements

SEQUOYAH COURSE CREDITS

Students are expected to earn 24 credits plus co-curricular requirements (Field Studies, Social Innovation Program, PE, Talking Leaves, and math/Spanish review) to complete the academic program.

- Eight (8) of the 24 required credits are elective courses.
- “College preparatory electives” are typically A-G approved courses and include some online courses.
- “Other elective blocks” may include Independent Study (student designed) or non-traditional courses.
- Course credits are earned by completing the required modules or “mods.” Students take three (3) blocks (A, B, C) per each five-week mod. Typically, 3-mod courses are the equivalent of traditional year-long courses due to the extended 85 minute periods most days.
- Sequoyah recommends that any course grade of 1.3 (D) or lower should be remediated in order to qualify for 4-year colleges.

UNIVERSITY OF CALIFORNIA ADMISSION REQUIREMENTS

Sequoyah’s high school courses meet the “A-G” requirements for the University of California, with a grade of a C-minus or higher

Area of Study	Sequoyah Requirement	University of California Requirement
A: History	3 years (9 MODs/ 3 credits)	2 years
B: English	4 years (12 MODs/ 4 credits)	4 years
C: Mathematics	3 years + Math Review (9 MODs/ 3 credits; 4 years recommended)	3 years – Algebra II
D: Laboratory Science	3 years (9 MODs/ 3 credits)	2 years
E: World Language	3 years + Spanish Review (9 MODs/ 3 credits, through Spanish 3 or 2 years of Spanish through Spanish 4)	2 years of same language
F: The Arts	1 year of same art (3 MODs/ 1 credit)	1 year of same art
G: College Preparatory	1 year	1 year of same course
Other Electives	6 credits (including Z Block electives)	0
Field Studies*	9th & 10th Grade: 4 trips required 11th & 12th Grade: Fall Retreats 12th Grade: Spring trip	0
Social Innovation Program (SIP)*	4-years, including Impact Project & Internship	0
Physical Education	2 years (4 seasons of PE, sport, or equivalent)	0
Talking Leaves (TL)*	6 successfully completed, including June of 12th grade	0
Total Required Credits	24 credits + Field Studies, SIP, PE, TL	15 Credits

* Requirements differ for transfer students.

Learning Outcomes & Course Rubrics

At the beginning of each course, students will review the course rubric that outlines 12 process- and product-oriented Learning Outcomes. Each of the 12 Learning Outcomes clearly defines the type of learning students are encouraged to develop. Each Learning Outcome is also weighted differently in each course.

Sequoyah's Learning Outcomes, in all areas of the curriculum, include both process-oriented goals based on the school's Habits of Mind, and product-oriented goals that focus on content-area concepts, skills, and factual knowledge.

The following chart is an example of Learning Outcomes for a course:

General Area	Learning Outcomes (Examples)	Evidence	Approx % of Course Grade
PROCESS <i>Focus on non-cognitive and meta-cognitive domains</i>	Perspective: demonstrates ability to observe topics from multiple points of view	Engagement in class, work samples	30%
	Inquiry: regularly asks clarifying and open-ended questions to advance learning for oneself and others		
	Collaboration: demonstrates when to lead and follow		
	Communication: clearly expresses ideas in a way best suited for the needs of the audience		
	Creativity: approach challenges with an open mind and willingness to take imaginative risks while generating ideas and refining solutions		
	Application: transfers learning to novel and authentic contexts		
	Stewardship: demonstrates empathy and concern to advance learning of all students in the class		
	Ownership: initiative, engagement, ability to learn from mistakes and use feedback		
PRODUCT <i>Focus on cognitive domains</i>	Conceptual Knowledge: well-reasoned analysis and synthesis of central constructs, concepts and frameworks within a discipline	Performance tasks, quizzes, tests	70%
	Procedural Knowledge: ability to use subject specific skills when appropriate		
	Factual Knowledge: fluent recall and appropriate use of subject specific facts, terms and vocabulary		

Assessment & Feedback

Sequoyah's reporting system uses a mastery-based approach to grading that articulates the different Learning Outcomes the student must master during the course. Based on the process and product Learning Outcomes, teachers provide ongoing feedback and end-of-term notes, and a final course report upon the completion of a course. Year-end grades are reflected on the student's transcript.

Exhibitions of Learning

Public exhibitions of learning and periodic formal reflection are essential pieces of the learning process in which teachers and parents are encouraged to celebrate and honor accomplishments, while supporting individual learners to take ownership of and communicate what they have learned.

These exhibitions showcase student learning from the classroom, clubs, Stewardship, and the Social Innovation Program, and take place in the first weeks of January and June.

The Talking Leaves Program

Sequoyah, the Cherokee leader who invented the Cherokee syllabary, referred to written documents as "talking leaves" – papers that conveyed the important thoughts of individuals. The school's Talking Leaves Program challenges students to prepare presentations for the Exhibitions. Students write essays and prepare speeches to demonstrate their depth of thought on essential questions from their courses and to participate in ongoing dialogues on contemporary issues.

ACADEMIC COURSES

Overview

At its core, the curriculum challenges students to think critically and creatively, learn how to work in teams and navigate conflict, and communicate ideas effectively. The academic courses provide opportunities for students to develop expertise in traditional disciplines and challenge students to think across disciplines to ask and explore new questions. The college preparatory curriculum includes advanced academic courses and opportunities for individuals to pursue their intellectual passions.

Please note that course offerings are subject to change. Additional courses may be added, revised or removed. If you have questions about when a specific course will be offered, or if you'd like to request a new course, please contact the High School Director.

Course List | A-C Blocks

MUSIC

Choir
Contemporary Issues in Music
Gryphon Ensemble
History of Popular Music
SAS History of Popular Music
SAS Music Production

THEATER

Acting
Art of Storytelling
Improvisation
SAS Playwriting, Acting & Directing
SAS Shakespeare

VISUAL ART

Animation & Filmmaking
Drawing
Illustration
Installation
Painting
Printmaking
Sculpture
SAS Visual Arts Seminar
Visual Communications

HUMANITIES

Humanities 1 & 2

ENGLISH

SAS Allegory & the Novella
Brave New World
Ekphrasis: Poetry and the Other Arts
SAS Making Ends Meet: Women & Capitalism
Monsters & Madness
SAS Transcendentalism
The Color Curtain: Race in American Literature
SAS The Undiscovered Country

HISTORY

American History
SAS American History
SAS Autocracy and Totalitarianism
Middle East

MATHEMATICS

Foundations 1: Algebra I
Foundations 2: Geometry
Foundations 3: Algebra 2
SAS Calculus
Precalculus
SAS Higher Math
Statistics

SCIENCE

Biology
SAS Biology
Biology of Disease
SAS Biology of Disease
Chemistry
SAS Chemistry
Conceptual Physics
Grand Challenges of Ecology
SAS Grand Challenges of Ecology
SAS Physics

WORLD LANGUAGE

Spanish 1, 2, 3
SAS Spanish 4 & 5

Mini-Course List | Z Blocks

MUSIC

Building Blocks of Music
Competitive Jazz Combo
Music Technology 1 & 2
Songwriting

THEATER

Fall Show
Spring Show

VISUAL ARTS

Design Thinking
Photography
Portfolio

HUMANITIES

The News
Debate

ENGLISH

Writing Workshop

MATHEMATICS

Mathematicians

SCIENCES

Astronomy
Brain & Cognitive Science
Ecology of the Angeles Crest
Geology of the Southwest
Life in the Universe
Scientific Research

STEM

Arduino Programming
Circuitry
Computer Architecture
Interactive Animation in JavaScript
Robotics
Python Programming

WORLD LANGUAGE

Chicanx History & Culture
Latin America & Spain
World Language Independent Study

COURSE CATALOG

ARTS

Starting in 9th grade, students have a number of opportunities in the visual and performing arts to develop creativity and acquire a variety of skills. All students are required to take 3 blocks (A-C) of arts during the 9th-grade year, but may choose from visual arts, theater or music for each block. Before graduating, students must complete 3 blocks of the same discipline. A variety of arts courses are offered. Some are 1-block in length, while others combine multiple blocks.

MUSIC

Sequoyah's music program builds upon the independent musical training of students to develop appreciation for and provide immersive experiences in musical traditions from around the world. The program creates opportunities for students to participate in modern ensembles and seek out novel forms of collaboration that bridge artistic disciplines. The contemporary landscape of music production also requires students to become familiar with and use new digital technologies for music creation. Finally, the program provides the opportunity for students to experience art as a social, community-based practice that has been an important part of social change across cultures. They begin with forming connections with artists in the Los Angeles area.

The program balances lessons on developments in theory and the exploration of new genres of music, with collaborative approaches and new technologies that inspire creativity. As the means of music production becomes more economical and accessible, cultivating our ability to imagine and collaboratively create art becomes an increasingly crucial skill set. Students will recognize the variety of avenues that can lead to sustainable careers, such as cross-disciplinary fields involving music therapy, music diplomacy, digital instruments, computer music and software, wireless audio technology, and musical artificial intelligence.

Music Electives

CHOIR

(1 credit, Arts)

As the first instrument, the voice holds an important place in the history of all of the world's musical traditions. Skilled practitioners of the vocal arts create songs and deliver messages to people and places that everyday speech cannot reach. They present themselves with a confidence and poise that supports their individual pursuits, both musical and non-musical. Students in the Choir class develop vocal technique through singing a variety of choral literature. Students learn the elements of sound production, pronunciation, elocution, and harmony. Since the voice is an instrument directly connected to physical and emotional well-being, they also learn about vocal health, performance attitudes, and adolescent voice development. As part of their studies, students learn to read music on staves and sight sing using traditional Western solfege syllables. Students wishing to participate in the theater Spring Show may be required to take this course, as the skills necessary to perform multi-part ensemble singing are introduced. Self-care and regular, efficient, practice are required daily.

CONTEMPORARY ISSUES IN MUSIC

(1/3 credit, Other Elective)

Why did Bob Dylan receive a Nobel Peace Prize? What does it mean for Kendrick Lamar to win the Pulitzer Prize? Why are instrumental musicians much less known than singing counterparts in today's popular music? Music and history are inextricably linked. Important figures, times, and places all have a soundtrack running parallel to them at all times. When society makes a move, musicians and their art are present to provide context, commentary, opposition, affirmation, distraction, and more to the conversation. In this mod, students address issues very close to home in the music that surrounds them in their daily lives. Issues relating to censorship, commercialism vs. artistry, the roles of women in society, cultural diffusion vs. appropriation, and other such issues are examined using the works and life stories of musicians and musical organizations from today's world. Students analyze lyrics, watch documentaries, read articles, and debate the issues relevant to the world today from the perspectives of artists still alive today.

Students do not need any musical training to participate in this class and live performance, if done at all, will be optional. An open mind and a willingness to engage in lively discussion are all that will be necessary.

GRYPHON ENSEMBLE

(2/3 credit – Arts; prerequisite: Music survey and audition)

This Gryphon Ensemble is for more advanced musicians. The group learns and composes more challenging music than what is offered in the Performance class. They focus on preparing pieces to be recorded and/or performed at showcases, school functions, and community events.

Eligible students should have a dedication towards an instrument they intend to play in the ensemble (this includes voice). Because of the challenging nature of the material, which builds upon itself, diligent practice regimens of at least 30-60 minutes per day are necessary outside of class.

HISTORY OF POPULAR MUSIC (2019-2020)

(1/3 credit – Other elective)

Students in the History of Popular Music course learn about the origins of popular music in America, tracing the evolution of early folk styles like spirituals and the blues into the styles that form the backbone of one of America's greatest entertainment exports, the music industry. Students listen to music, learn about notable figures, and see how the interests and issues of society at large, and young people in particular, shaped the trajectory of the music, which in turn has a real impact on society itself.

SAS HISTORY OF POPULAR MUSIC (2019-2020)

(2/3 credit – Other elective)

Continuing with the work in the History of Popular Music class, The SAS History of Popular Music follows the development of the musical landscape in the United States from Tin Pan Alley and the dance bands of the 40s to the modern phenomena in music that have now been exported to the world and define the sounds of rock, hip hop, country, jazz, pop, and many more genres of music with large listenership today. The focus in this class is on music as an industry and how innovative legislation, technology, and art come together and continue to define American culture at home and abroad.

Students do not need a background in music to participate in this course. An open mind and willingness to hear various styles of music are all that are necessary.

PERFORMANCE: INSTRUMENTAL AND VOCAL BASICS

(1/3 credit – Arts)

In this course, students take their first steps into the world of group music making by crafting and refining the experience as they do it. They will learn the basic categories of instruments, their function in ensemble play, and the variety of their forms. They also learn about the voice, using it not just as a performing instrument, but also as a means of communicating with other musicians.

Students perform in various configurations throughout the class, both on and off campus. Students develop meaningful practice routines for themselves, internalize standards for effective live performance, and analyze and put into practice expressive techniques for their instrument of choice

Students do not need prior musical experience to participate, but must be willing to commit to daily practice outside of class of a duration specified by the instructor.

Advanced students will have additional responsibilities assisting with small group instruction, collaborating with the instructor on musical performances outside of class, and/or composing/arranging music for the instruments in class.

SAS MUSIC PRODUCTION

(1 credit, Arts)

In the final course in the Music Technology series, students use skills learned in the previous classes to record live music, and compose digitally. Students also take the next step in crafting a complete work by focusing on the mixing and mastering process. Students learn editing staples like punching in, automation, and post-recording. The course culminates in a student showcase of new tracks.

Music Mini-Course Electives – Z Blocks

BUILDING BLOCKS OF MUSIC (2019-2020)

(1/6 credit, Other Elective)

Are bars and measures the same thing? What are beats? (Both in, and out of a hip-hop context!) What kind of information do musical notes provide? In this course, students answer these questions and many more that relate to the sometimes arcane world of music theory. They learn to recognize notes and symbols on the staff, the names and order of notes in the musical alphabet, and how rhythms are put together. Students use these skills to read and interpret scores, write music on a staff, and speak using formal Western musical language. Ear training and rhythmic dictation exercises help open the ear so that students can now accurately write what they hear. Being able to recognize and describe musical phenomena in both written and aural form make students better composers, arrangers, performers, singers, and improvisers, regardless of style or genre.

Students do not need to have musical experience to participate in this class. It helps if the student already plays an instrument, especially if the instrument can play multiple notes at the same time. (Uke, guitar, piano, etc.)

COMPETITIVE JAZZ COMBO (2019-2020)

(1/3 credit – Arts; prerequisite: audition)

This class is for students preparing to enter in a jazz competition in the late Spring. Students develop skills essential to effective combo performance, including knowledge of chord and scale relationships, how to transcribe solos, follow accompaniment conventions, and communicate using musical terminology. The group develops skills useful to the contemporary professional musician including: building a repertoire of memorized tunes, recording studio etiquette, and creating arrangements from lead sheets.

Eligible students should have a dedication towards an instrument they intend to play in the ensemble (this includes voice). Because of the challenging nature of the material, which builds upon itself, diligent practice regimens of at least 30-60 minutes per day are necessary outside of class.

MUSIC TECHNOLOGY I: INTRODUCTION TO MUSIC PRODUCTION

(1/6 credit – Other Elective)

In these courses, students learn about the history of music production. From microphones, Digital Audio Workstations (DAWs) and electronic instruments, to recording techniques and studio setup methods, students in this class survey the basics in the field of audio engineering and digital composition.

The first class is a one-mod class that focuses on the physical tools and techniques needed to record live sound. Students in this class use a variety of microphones as well as free recording software to capture sounds for music making, podcasts, and voice-overs. Students gain experience setting up sessions, recording, and editing audio using sound editing software. Students in this class are tasked with recording school performances and the various ensembles on campus. The course will culminate with students producing tracks using live recorded sounds.

MUSIC TECHNOLOGY 2

(1/3 credit – Other Elective; prerequisite: Music Tech I or dept. approval)

The second class is a two-mod class that focuses on creating music and interesting original work in a digital audio workstation. Students utilize loops, studio effects, MIDI controllers, and structure-building tools to develop their ideas, polish tracks by fixing mistakes, joining parts, and synchronizing timing. By the end of this class, students will compose a ringtone, a soundscape, and an original musical piece combining live sound with digital sound.

SONGWRITING

(1/3 credit – Arts)

How can a story be told with words and music in less than four minutes? In this course, students analyze selected modern works spanning popular music from the blues, country, Tin Pan Alley, as well as hits from today. They delve into the theory behind chord resolutions and understand why Western chord progressions “work.” The class practices effective uses of proven song forms and lyrical devices. Each student practices playing on a chordal instrument to aid in their composing. Students work collaboratively, as well as individually, on their own compositions and will also learn how to chart out their works for musicians. The course culminates in a songwriting showcase in which students will have the opportunity to have their works performed by student musicians.

THEATER

Theater in the high school is driven by a passion for collaboration, risk-taking, artistic expression, and a deep sense of community. From classes in Acting and Improvisation, to Shakespeare, and Storytelling, to full theatrical productions, theater at Sequoyah offers students a unique opportunity to explore the depth and breadth of theater. In their Junior or Senior years, advanced theater students can choose to work deeply as playwrights, designers, or directors, culminating in a student-generated Festival of One-Act Plays in the spring.

ACTING

(2/3 credit – Arts)

The course welcomes students who have never taken an acting class before, and challenges and inspires students who have already acted for a few years. Students learn the basic principles of the art and craft of acting in a playful, encouraging, collaborative atmosphere. Particular emphasis will be given to enlarging the imagination, taking risks, supporting classmates' growth, and collaborating effectively. For the final project students perform scenes for an audience of peers and parents.

ART OF STORYTELLING

(2/3 credit; Arts – prerequisite Acting or Fall/Spring Show and dept. approval)

Art of Storytelling is a hands-on class offering students the opportunity to create compelling personal stories to be shared in front of a live audience, and to learn the art and craft of public speaking. Students will learn how to mine stories, craft stories, and perform with presence, authenticity, and connection. The class also guides students in developing their abilities to interview people, craft, and record stories told by family members or people they meet during SIP and Social Impact projects. This part of the class will be modeled after the StoryCorps podcast, whose mission is "to preserve and share humanity's stories in order to build connections between people and create a more just and compassionate world." No prerequisites.

IMPROVISATION

(1/3 credit – Arts)

Studying improvisation frees the imagination, builds self-confidence, fosters ensemble building and team-work, enhances public speaking skills ... and it's fun! Sometimes silly, sometimes wild and crazy, improv training will inspire students to think outside of the box and say "yes" to the unknown. The objectives of this course are to discover the fundamentals of improvisational comedy, to be more creative, to improve your storytelling skills, to think quickly on your feet, and to take risks. Through coaching, warm-up exercises, creative performance games, and short-form scene-work, you will learn how to be more spontaneous, trusting, and cooperative and how to listen in a fun, creative atmosphere.

SAS PLAYWRITING, ACTING & DIRECTING

(1 credit; Arts – prerequisite Acting or Fall/Spring Show and dept. approval)

This is an advanced theater class for those interested in writing, directing, producing, designing, and/or acting in one-act plays to be performed for the public. Students concentrating on playwriting will write their original plays by learning techniques of playwriting, character and conflict development, narrative arcs, revising drafts and, finally, producing a rehearsal-ready script by the end of the second mod of the class. Your goal should be to write between 10 and 15 pages a week, and the final project will be a revised one-act play of 20-30 pages. Students concentrating in directing will study directing techniques and theories, and will choose one one-act play and create a directing portfolio. During the One-Act Play Festival, directing students may choose to direct their one-act play, or they may direct another student-written original play. All students regardless of emphasis will study advanced acting, practicing the pedagogies of significant acting teachers such as Constantin Stanislavski, Sanford Meisner, Uta Haagen, Michael Chekhov, Viola Spolin, and Stella Adler. We will read and discuss one play each week. All students will also produce, act in, and design the productions for the One-Act Plays Festival in June.

SAS SHAKESPEARE (2019-2020)

(2/3 credit; Arts – prerequisite Humanities I and dept. approval)

This course introduces students to the exciting world of Shakespeare with a close study of major plays such as Othello, As You Like It, Henry V, King Lear, Hamlet, Much Ado About Nothing, and The Tempest. We study the poetry, language, structure, and the historical backgrounds of the plays; we read the plays in the context of theatrical performance then and now; and we learn about Elizabethan theater, language, and culture. Students also learn about Shakespeare's extraordinary dramatic poetry and sonnets, and we investigate his innovations and influence in language, literature, and theater. The course has written and performance elements, and is open to students with no acting experience.

Theatre Mini-Course Electives – Z Blocks

FALL SHOW

(1/2 credit – Arts; prerequisite or taken concurrently with Acting, and audition or dept. approval)

The Fall Show is a full-scale ensemble production. We spend 10 weeks in rehearsal, culminating in performances for the school and public. Past Fall Shows include: Twelfth Night, AntigoneX, and Almost, Maine. Auditions are in Mod 1. The Fall Show will be an exciting production in a black box theater with professional designers. The play will be a contemporary show that requires actors to “dig deep” and create something amazing together. Actors may be able to participate in both sports and the theater production, but they are required to meet with the instructor prior to the course to work out a schedule. It is recommended, however, that students choose to do the Fall Show OR a sport. The rehearsal period is 2:30-4:30 Monday-Thursday, and before the play opens at the end of Mod 3, we will add required four- and five-hour tech rehearsals and three or four weekend rehearsals. There may be additional weekend rehearsals as well, depending on the sports schedules. We will have a mandatory parent/actor meeting in Mod 1 to discuss commitment and expectations.

SPRING SHOW

(1/2 credit – Arts; prerequisite or taken concurrently with Acting, and audition or dept. approval)

The Spring Show may be a play or a musical. In Mod 4 we only meet during Z Block to learn the music and choreography; in Mods 5 and 6, we meet during Z Block until 4:30pm rehearsing the scenes and putting it all together. Our rehearsal period culminates in performances for the school and public. Theater projects may include guest artists in dance, choreography, design and instrumental and/or vocal accompaniment. Past musicals include Peter and the Starcatcher. We will generally offer a musical every other year.

VISUAL ARTS

The visual arts program at Sequoyah offers an in-depth analysis of art from multiple perspectives based in the tradition of Gesamtkunstwerk, one that seeks to root contemporary expression in the blending of forms and previous works. The formal principles and elements of art and design are presented so that students can create a balance of skill and self-expression. The visual arts program instills confidence and encourages risk taking as an essential means for self-discovery and excellence. Our program encourages ingenuity and exposes students to a wide range of critical and visual thinking strategies, representational exercises and non-representational exercises. Experimentation, research and critique lead students to a cohesive arts education.

Visual Arts Electives

ANIMATION & FILM (2019-2020)

(2/3 credit - Arts; prerequisite: Illustration, Visual Communication, or dept. approval)

Students will explore the fourth-dimension and gain insight into a variety of animation and filmmaking techniques and approaches. Students will develop a strong sense of how to tell a visual story with animation and film while creating a personal sense of style in group and individual work. We will take a look at the history of film and animation and contemporary shorts. From scripts to rough storyboards, students will reiterate ideas for short films and animations and documentaries in preparation for a short film project. Students will work with Animation Software, Adobe Premiere and After Effects throughout the editing and post production process.

DRAWING (2019-2020)

(2/3 credit - Arts; prerequisite: Illustration, Visual Communication or dept. approval)

This course will strengthen drawing skills by emphasizing technique, concept, craftsmanship and process. Students will keep a sketchbook for journaling and drawing their own individual path through art history. Students will create a master-copy of a painting, sculpture, or piece from the week, write a short formal analysis of the work and present the work to the class. Students will have the opportunity to lead a seminar and short presentation on an individual artist and period of art history. This is a course designed so that students can balance their studio work and observational drawing skills while taking a personal journey through art history.

ILLUSTRATION

(1/3 credit - Arts)

Students will develop a comprehensive set of skills in sequential art as illustrators and storytellers. They will hone and polish illustration techniques as they find a unique narrative voice in class projects. Students will have a chance to explore other illustrators, children's books, graphic novels and comics in-depth and experiment with digital arts and traditional illustration techniques. There will be opportunity for students to give and receive feedback in group critiques and conversations. Students will be expected to use class time fully and develop an artistic discipline with daily sketchbook prompts and assignments outside of class.

INSTALLATION: IMMERSIVE ENVIRONMENTS

(2/3 credit – Arts; prior experience with sculpture recommended)

In this course, students will learn about installation art, site-specific works, immersive experiences, and interaction in contemporary art. Through a series of exercises and investigations, students will develop their own sculptural vocabulary and practical techniques to explore the three-dimensional form in space and begin thinking about the world sculpturally. Students will learn the fundamentals of installation art while delving into the study of landscape, spatial and contextual awareness, site-specific analysis, and behavioral observation within our environment. Students will use these skills to develop a project that is connected to their own interests, presenting a final site-specific installation at the end of the course.

PAINTING

(2/3 credit – Arts; prerequisite: Drawing, Illustration, Visual Communication or departmental approval)

This introductory course will focus on painting from still-life, portraiture, landscape, figurative approaches, abstraction and realism. This rigorous course will strengthen students' artistic discourse and will refine students' personal sense of style. Developing an understanding of linear perspective, spatial concepts, value, compositional structure, figure-ground relationships and critical thinking skills as students work conceptual sketches to fully resolved paintings. Students will participate in critiques and will write short essays on works and artists that inspire their own work. Students will be expected to cultivate a creative discipline and continue studio work and sketchbook assignments outside of class daily.

PRINTMAKING

(1/3 credit – Arts)

This course will be an opportunity to experiment with a variety of printmaking techniques and strengthen draftsmanship and conceptual skills. Students will explore the history of printmaking, including intaglio etching, monotype, relief, serigraphy, and digital processes. For the final project, students will develop a work in a medium of their choice. In addition to one's individual work, all students will take an active role in discussions and develop a constructive vocabulary for group critiques.

SAS: VISUAL ART SEMINAR

(2/3 credit - Arts; prerequisite: one credit of visual art and departmental approval)

Students will strengthen conceptual, critical and creative thinking, as well as communication and technical skills in this seminar course, while exploring a variety of brainstorming techniques to apply to critiques, assignments and projects. Students will also write about and make presentations on artists and art movements throughout history. Ultimately, students will prepare a broad portfolio of work, through experimentation with a variety of materials, mediums and approaches to be presented at the Gallery Show at Exhibition Night.

SCULPTURE: OBJECT AND SPACE

(2/3 credit - Arts)

In this course, students will be introduced to a myriad of sculptural practices and three-dimensional processes to learn the foundations of sculpture and sculptural thinking. Exploring recycled materials, assemblage, and hand building, students will work on collaborative and independent projects. Students will look at contemporary sculptors and examine the history of the medium and take a deep dive into the critique process. Students will take concepts to completion and investigate form, space, and content. This course will encourage self-expression and be an opportunity to use critical thinking skills to develop ideas while honing an attention to craft and exploring sculptural techniques and materials.

VISUAL COMMUNICATIONS

(1/3 credit - Arts)

Students will learn a broad set of design skills in this course while developing an understanding of the principles of design, gestalt, color theory, logo design, and typography. Students will build a strong foundation of digital arts techniques and a comprehensive understanding of the Adobe creative suite.

Visual Arts Mini-Course Electives – Z Blocks

DESIGN THINKING

(1/6 credit – Other Elective)

Design thinking is a process for solving problems creatively. Students will become familiar with the stages of the design thinking process, and apply those steps to solving design challenges. Students will explore rapid prototyping, digital arts, CAD software, CNC processes and 3D printing. Working collaboratively will open doors to new ideas and new ways of solving everyday problems. Students will learn how to take big ideas, innovative concepts, and sketches from the brainstorming phase to the test and presentation stage. This interdisciplinary course encourages students to be innovative, collaborative and fully resolve independent projects.

PHOTOGRAPHY

(1/6 credit – Other Elective)

In this digital photography class, students will develop a body of photographic work, while learning the multifaceted editing processes available in Photoshop. Students will balance the use of digital techniques and traditional printing materials as they develop a personal sense of style with their work. Students are expected to take photos outside the classroom, as they will use class time to edit photos, present work and participate in critiques. We will also take a look at important historical and contemporary works as students develop their own style and voice.

PORTFOLIO

(1/3 credit – Other Elective; prerequisite: departmental approval)

In this project-based course, students will fine tune their creative practice and focus on the development of a body of creative work. Students will learn to write an artist statement, cover letter and research in-depth portfolio requirements for art programs they are interested in. Students will create a digital record of their portfolio that best represents their creativity, skills and trajectory towards a career path in the arts.

HUMANITIES

The Humanities program, beginning with a Humanities course in 9th and 10th grades, explores perennial questions of world history through an integrated study of history, literature, philosophy and art. Students learn to read thoughtfully and discuss a variety of texts, such as scholarly perspectives on history, as well as the primary literary, artistic and archeological expressions of human experience. The practice of thoughtful reading, questioning and seminar-style discussion provides a basis for all coursework that follows. Students are guided to express their ideas with clarity and style in a number of written forms, including frequent short expository responses, multi-page essays, and other creative pieces, including poetry.

In the 11th and 12th grades students dive deeper into the individual disciplines of history and English. **In 11th grade, students are required to take a three-block course in American History (SAS option).** During both years, **students must complete two full credits of English, one of which must be in American Literature.** Students whose schedules permit may also choose to take additional blocks from these sequences, or instead select from a variety of intermittently-offered electives.

All courses will involve considerable amounts of reading and written analysis. Students will engage in seminar-style discussion, debate and role-playing. Sequoyah Advanced Studies courses offer particular challenges in volume and difficulty of reading, as well as higher expectations for written response.

The Humanities program is based on the following principles:

DIVERSITY | Human culture comprises a diversity of experience and a variety of interpretations. Students will develop a coherent framework for understanding human culture over time, unified by human dignity and defined by the available evidence but accommodating multiple ideas and narratives. Dissent will be encouraged. Human experience will be regarded at multiple scales, from “landscape views” of history to “case studies” involving deep inquiry.

EVIDENCE | Culture is best understood through its recorded evidence. Students will ground their study, wherever possible, in primary sources, native literatures, and local art forms, underscoring the specificity, immensity, and difficulty of history itself.

PERSPECTIVE | Subjectivity is central to humane understanding. Course themes will balance the fallibility and humility of human knowledge against the sacredness of the human mind and its ethics, both individual and collective. Our study will never present knowledge as occurring “in a vacuum” (outside of epistemological approaches in philosophy that presuppose that vacuum); instead, views of past and present will be assumed to appear through a screen of cultural norms and values.

RELEVANCE | The study of Humanities begins, but does not end, here and now. The curriculum will retain Sequoyah’s place-based emphasis, using field studies and contemporary issues as lenses on the global past. Students will appreciate the Western tradition as a part of their heritage, but also recognize and claim other historical legacies. Our studies will continually be connected to current issues and guided by students’ concerns in their own lives.

Humanities Required Courses

WRITING WORKSHOP

(1/6 credit – Other Electives – REQUIRED FOR 9th GRADERS)

This course will serve as a mandatory first-year orientation to writing, and to a lesser extent reading, at Sequoyah. The emphasis is on learning how to express one's ideas clearly -- starting with the single sentence, and moving to entire arguments. The class will attempt to rise above the usual dry academic tasks, seeking to engage new Sequoyah students with ideas they want to express and the rewards of thoughts well-said. Along the way, there will be some serious grammar. But it will be fun. Really.

HUMANITIES I: JUSTICE IN THE AGE OF REVOLUTIONS & BIG HISTORY PROJECT – WORLD HISTORY

(2 credits, 9th grade English & world history)

This "double" course introduces students to the humanities, which include disciplines such as history, literature, philosophy, political science, and economics. The primary goal of this course is to provide students with the baseline skills and knowledge they will need to ask, explore, and answer their own questions about the world. These skills include researching the historical record, formulating claims about historical causation, supporting claims with evidence, and writing in different genres. Besides learning how to research and analyze literary and historical texts, students will explore fundamental questions about human nature and civilization. Students will develop a sense of historical themes and periods, philosophical approaches, and universal time scales to inform responses to questions of justice, identity, freedom, and much more. Although this course will broadly consider history from the Big Bang to the modern era, the focus of the course will be on world history from 1750 to the present.

The course will proceed by examining key case studies and turning points that reflect the shaping of the modern world. These revolutions in scientific understanding, political thought, social organization, and technology will form the basis of our inquiry. Major periods of examination may include the First Cognitive Revolution, the Agricultural Revolution, the French and Haitian Revolutions, the Industrial Revolution, colonization, and postcolonial nationalism.

Though texts may vary, students will read a diversity of works spanning multiple genres. Key texts are likely to include *Sapiens* by Yuval Noah Harari, philosophical essays by various Enlightenment thinkers, *Talking to My Daughter About the Economy* by Yanis Varoufakis, *The Thing Around Your Neck* by Chimamanda Ngozi Adichie, *King Leopold's Ghost* by Adam Hochschild, *Heart of Darkness* by Joseph Conrad, *Things Fall Apart* by Chinua Achebe, and *The White Tiger* by Aravind Adiga. Students can also expect to read short stories and poems, in addition to their own independent reading selections.

HUMANITIES 2: ANCIENT CIVILIZATIONS AND THEIR WORLDVIEWS AND NARRATIVES

(1 credit, 10th grade English & World History; Prerequisite – Humanities I)

In the second year of Humanities, as ever, we ask how to live our lives in the best way. For answers, we turn to ancient texts and traditions. We study Chinese, Greek, and Roman literature and philosophy, as well as Buddhist, Jewish, Christian, and Muslim scriptures. We let these texts speak to contemporary life, but we also study them historically, seeking to understand the social, political, economic, and even environmental conditions which they reflected, addressed, and sometimes changed.

As in Humanities I, the course proceeds by in-depth case study, and builds on the basic structures of reading, notetaking, discussion, and writing built the previous year. We will expand our ability to explore challenging texts, hold seminar discussions on the big questions, and elaborate our thinking by writing.

Readings might include (selections from) the *Tao-te-Ching*, Confucius's *Analects*, Wu's *Journey to the West* (in Waley's translation, *Monkey*), Sophocles' *Antigone*, Plato's dialogues, the *Meditations* of Marcus Aurelius, the Torah, the Gospels, and the Koran.

Humanities Mini-Course Electives – Z Blocks

THE NEWS

(1/3rd credit – Other Elective)

In this two-mod Z-block course, we take on the new news. We will define the news broadly. Any medium will be our message. We will alternate between the news as students see it, and the news as the instructor sees it, between “what passes for the new,” as William Carlos Williams said, and “news that stays news,” as Ezra Pound said. We will “read” advertisements, and BuzzFeed lists, and Pixar shorts, and rap lyrics. But we will also read newspaper articles, and poems, and podcasts, and flash fiction. All is fair game, as long as it feels like the news. We’ll use those critical thinking skills we’re always talking about to find out whether it’s real or fake, and we’ll do it in 40 minutes or less.

DEBATE

(1/3rd credit – Other Elective)

This course is intended to support members of the debate team with extended lessons and practice with research, argument writing, listening and refutation. We will examine common logical fallacies and practice identifying them in our mock debates, while becoming more skilled note-takers and using the “flow” notetaking method.

ENGLISH

English Elective Courses

SAS ALLEGORY & THE NOVELLA

(1/3 credit English; Prerequisite – Humanities 2, with dept. GPA 3.1 or better, or instructor permission)

Writer Lindsey Drager says “the novella is not a work of fiction between 15,000 and 40,000 words. Rather, a novella is a book-length work that uses conciseness and unity to create a narrative of suggestion that feels at once compressed and expanded...It declares, “I can say more with less” and then it does. It is not an unwieldy short story but cohesive, taut, succinct. It is the novel’s architectural foundation, the stripped and fleshless core that argues the frame of a story might be enough. The novella is a kind of constellation.” In this course, we will explore the possibilities of a form that simultaneously expands and contracts the impulse of storytelling; a form that treats death as an abstraction and a coughing, sputtering, living process; a form that wonders aimlessly and also moralizes shamelessly.

Because these books are short--often described as readable in a single sitting--we will probably read one a week, or even faster. So many great texts are on the possible list here, in no particular order: Jane Austen’s *Lady Susan*, James Joyce’s *The Dead*, Leo Tolstoy’s *Death of Ivan Illych*, Edith Wharton’s *Ethan Frome*, Herman Melville’s *Bartleby the Scrivener*, Elizabeth Gaskell’s *Poor Clare*, Franz Kafka’s *Metamorphosis*, Henry James’ *Turn of the Screw*, Teju Cole’s *Open City*, Shirley Jackson’s *We Have Always Lived in the Castle*, Albert Camus’ *The Stranger*, Alice Munro’s *The Loe of a Good Woman*, Stefan Zweig’s *Chess Story*, Nella Larsen’s *Passing*--probably anything else in Melville House’s great Art of the Novella season is fair game too.

BRAVE NEW WORLD: LITERATURE OF COLONIAL ENCOUNTER

(1/3 credit English; Prerequisite – Humanities 2, or Humanities 1 and instructor permission; fulfills 1/3 of American Literature requirement)

This course examines the encounter between (mostly European) colonizers and indigenous peoples, in literature from the Renaissance onward. Our texts will consider the initial expectations, individual experiences, and lasting results, both real and imagined, of the people involved in these frontiers between the “Old World” and the “New,” considering that what was old and what was new is all a matter of perspective. The bulk of the class will focus its attention on English colonization of North America, so as to connect to key themes of subsequent American literature and history. This is more a light foregrounding of American studies around the theme of freedom and frontier than a well-rounded course in postcolonialism, but we may find occasion to examine complementary cases from elsewhere in the world as well.

(CON'T - BRAVE NEW WORLD: LITERATURE OF COLONIAL ENCOUNTER)

William Shakespeare's *The Tempest* will be our touchstone text, a springboard for reading complementary influences on the play, including Montaigne and William Strachey. A brief examination of the ways Indian culture affected and was affected by European thought will likely have us reading John Smith, Mary Rowlandson, Powhatan, William Apess, William Bradford, John Winthrop, William Penn, Samson Occam, Jean-Jacques Rousseau, and Thomas Hobbes. From there, however, we may run far afield, perhaps to some Caribbean or Native American literature. We will likely conclude the class with a critical appraisal of Terrence Malick's film *The New World*.

EKPHRASIS: POETRY AND THE OTHER ARTS

(1/3 credit English; Prerequisite – Humanities 2, or Humanities 1 and instructor permission)

This mod examines "ekphrasis," the poetic encounter with art. If a picture is really worth a thousand words, why would anyone want to throw a few more on the pile? We will spend some time using Visual Thinking Strategies and other methods to really look at and talk about art, then we will begin to explore poetry by Homer, Horace, Dante, William Blake, John Keats, Robert Browning, Rainer Maria Rilke, Frank O'Hara, Wallace Stevens, William Carlos Williams, W.H. Auden, Elizabeth Bishop, Adrienne Rich, John Ashbery, Anne Sexton, Sylvia Plath, W.D. Snodgrass, and others along with the art that inspired them, by artists from deep antiquity as well as Pieter Breughel, Fra Lippo, Parmagianino, Leonardo Da Vinci, William Blake, Pablo Picasso, Van Gogh, Henri Matisse, and many more. Students will visit local museums, write their own poetic responses, and examine a single poem-artwork pairing in an extended series of presentations and writings. We may also have time to consider the vast interconnections between music and verse, though we will focus not on lyrics per se but on written poetic responses to nonverbal works, tracking, say, Langston Hughes' jazz poetry, or even better, the specific riffs on Thelonious Monk of poets from Amiri Baraka to Evie Shockley.

SAS MAKING ENDS MEET: WOMEN & CAPITALISM (2019-2020)

(2/3 credit English; Prerequisite – Humanities 2, or Humanities 1 and instructor permission; fulfills 2/3 of American Literature requirement)

This substantive course in American Literature will be built around a comparative investigation of the ways that 19th-century women are depicted differently in two different novels set in widely disparate places. The two novels are *My Antonia* by Willa Cather and *The Custom of the Country* by Edith Wharton, and students will be charged in particular with thinking, discussing, and writing about how the two heroines of those novels--one a frontier immigrant, one an urban social climber--relate to the development of American capital and industry. We will attempt a 21st-century stance, challenging our notions of femininity and the expectations of patriarchy by considering early examples of women in literature who feel no particular need to curry our favor, or even engender our sympathy, as they seek to liberate themselves. The course may also include Henrik Ibsen's *A Doll's House* or Kate Chopin's *The Awakening*, dip into modernism with Virginia Woolf's *Mrs. Dalloway*, or take on short fiction by Eudora Welty or Alice Munro.

From there, we will jump forward in time to take on a shorter work or two by more recent writers, applying a feminist lens to our current age. We will likely center this on a single short novel, maybe a recent Continental bestseller like Leila Slimani's *Chanson Douce* or even better, Elena Ferrante's *Days of Abandonment*.

MONSTERS & MADNESS

(2/3 credit English; Prerequisite – Humanities 2, or Humanities 1 and instructor permission)

In this two-mod course, we will begin by venturing into one of the original swamps from which some of popular culture's most famous monsters emerged – Mary Shelley's *Frankenstein*, Robert Louis Stevenson's *Dr. Jekyll and Mr. Hyde*, or Bram Stoker's *Dracula* come to mind as possibilities. We will probably find that what lurks there is both more complex and more subtle than we thought.

From there, we will read all manner of ghost stories and tales of madness, from Samuel Taylor Coleridge's "The Rime of the Ancient Mariner" to recent movies like John Ajvide Lindqvist's *Let the Right One In* or Guillermo Del Toro's *Pan's Labyrinth*. Maybe we'll even watch an episode or two of *Stranger Things* or *Black Mirror*. We will pay special attention also to the gendered aspects of the genre, reading some theory on the "female Gothic" tradition, and comparing the treatment of men and women by male and female creators. Possible additional authors, in no particular order: Christina Rossetti, Oscar Wilde, Charlotte Perkins Gilman, Roman Polanski, Shirley Jackson, Edgar Allan Poe, F.W. Murnau, Nathaniel Hawthorne, Virginia Woolf, David Cronenberg, Alfred Hitchcock, Jordan Peele.

SAS TRANSCENDENTALISM (2019-2020)

(1/3 credit English; Prerequisite – Humanities 2, or Humanities I and instructor permission; fulfills 1/3 of American Literature requirement)

This SAS class, part of the American Lit sequence, examines the United States' first major literary movement, Transcendentalism. Conventional wisdom places the individual in the center of the American ethos, and certainly we will read about American values of self-reliance, but the movement also took place in tight-knit communities of strong belief, as well as in a period of great cultural change. How did these communities and their new fashions lead to the first full bloom of American literature? What were they aiming to transcend? What held them to earth, according to its critics? Works read will definitely include essays of Ralph Waldo Emerson and Henry David Thoreau, as well as poems from Emily Dickinson and Walt Whitman's *Leaves of Grass*. We may also read Margaret Fuller, William Ellery Channing, Louisa May or Bronson Alcott, stories by Edgar Allan Poe, and perhaps Nathaniel Hawthorne's brilliant *Blithedale Romance*. In addition to essays, students will complete a creative, individual project that reflects the values, as they have analyzed them, of their own communities.

THE COLOR CURTAIN: RACE IN AMERICAN LITERATURE

(2/3 credit English; Prerequisite – Humanities 2, or Humanities I and instructor permission; fulfills 2/3 of American Literature requirement)

"The American situation is very peculiar," said James Baldwin during the height of the Cold War, "and it may be without precedent in the world. No curtain under heaven is heavier than that curtain of guilt and lies behind which white Americans hide. The curtain may prove to be yet more deadly to the lives of human beings than that Iron Curtain of which we speak so much and know so little. The American curtain is color." More than 50 years later, the curtain still hangs, obscuring our views of each other's basic humanity, and plenty of daily horrors besides. Few topics in American literature will seem as charged with contemporary political currency as this one, and we will eventually take social issues head on, reading from arguments from Martin Luther King's "Letter from a Birmingham Jail," Malcolm X's "Ballot or the Bullet," and James Baldwin's *The Fire Next Time*, to Ta-Nahisi Coates' *Between the World and Me* and Michelle Alexander's *The New Jim Crow*, but we will primarily examine the issues at the close range that only literature can provide. How has American literature imagined the American racial divide?

The course will harken back to the recriminations of Caliban and Prospero in the *Brave New World* course, then initiate a vigorous interrogation of Mark Twain's *Huckleberry Finn*. Lorraine Hansberry's *Raisin in the Sun* and James Baldwin's *If Beale Street Could Talk* will be the backbone of subsequent units, with additional readings from Langston Hughes' *Montage of a Dream Deferred*. If time permits, we may read another novel as well, perhaps Zora Neale Hurston's *Their Eyes Were Watching God*, Toni Morrison's *Sula*, or Jesmyn Ward's *Sing, Unburied, Sing*; we will also insert short stories examining the pressures of racial categories beyond white and black, in the work of writers such as Louise Erdrich, Junot Diaz, Jhumpa Lahiri, and Jenny Zhang.

SAS THE UNDISCOVERED COUNTRY

(2/3 credit English; Prerequisite – Humanities 2, with dept. GPA 3.1 or better, or instructor permission)

This class seeks to push students of literature to the edges of reason and feeling, reaching the frontiers of human understanding and widening our literary purview. Students will traverse political and social boundaries by first journeying beyond the realms of usual experience, to explore extremities not easily considered--death, virtuality, madness, futurity, and consciousness itself. How have authors, playwrights, poets, and filmmakers imagined the unimaginable? How have their explorations helped them escape the constraints of space, time, and mind, while simultaneously revealing their precise historical and social conditions? We will touch on issues of feminism and technology, posterity and transience, epistemology and ethics. We will read accounts of people, families, and societies pushed to the breaking point--and beyond.

The literature for such a course is necessarily scattered along the fringes of an arbitrarily plotted map. Novels might include Mary Shelley's *Frankenstein*, Nikolai Leskov's *The Enchanted Wanderer*, Magda Szabo's *The Door*, and J.M. Coetzee's *The Life and Times of Michael K*. Plays could be selected from William Shakespeare's *Hamlet*, Samuel Beckett's *Waiting for Godot*, and Tom Stoppard's *Rosencrantz and Guildenstern are Dead*. We may read short fiction by the Grimm brothers, Edgar Allan Poe, Jorge Luis Borges, Franz Kafka, Leo Tolstoy, Stefan Zweig, Shirley Jackson, Paul Auster, Donald Barthelme, George Saunders, and Lydia Davis, and poems will be drawn from a broad range encompassing the likes of Samuel Taylor Coleridge, Wallace Stevens, Ange Mlinko, and Claudia Rankine. Films might include the Wachowski's *The Matrix*, Tarkovsky's *Stalker*, and possibly Stanley Kubrick's *2001: A Space Odyssey*. We may also delve into psychological and philosophical works that make our minds unrecognizable to ourselves, from Plato to Descartes to Julian Jaynes, Andy Clark, and Thomas Nagel.

English Mini-Course Electives – Z Blocks

POETRY & THE ART OF READING

(1/6th credit Other Electives) – offered alternate years with Poetry Writing

How do you appreciate a poem? Like most things that are worth doing, enjoying poetry is a skill or art. In this seminar, we will develop that skill by reading and memorizing a variety of poems, as well as writing some of our own. We will analyze these poems carefully, asking both what they are saying and how it is that they speak to us. We will strive, in the process, to develop languages of analysis that will allow us to speak with greater subtlety and precision not only about poetry but also about life.

POETRY WRITING

(1/6th credit Other Electives) – offered alternate years with Poetry and the Art of Reading

This one-block mod will use a workshop format as well as various writing exercises to put engaged creative writers through their paces. Readings will vary, but the focus will be on student work. Writers will be admitted on the basis of a name-blind portfolio submission. Students will write mostly short lyric poetry, in established forms and free verse, and constructively critique each other's work. The focus will be on taking risks and finding voices, not polishing gems. The class will attend and give local readings, and hear from published writers.

HISTORY

History Required Courses

AMERICAN HISTORY

(1 credit – History, required 11th Grade, SAS option, Prerequisite – Humanities 2)

This 3-block course provides a comprehensive survey of the major historical events, themes, and concepts of North America. Beginning with the first native peoples, their migration through the continent and the diversity of their ways of life, the course will proceed through early European settlement, nationhood, internal conflict, world wars, and up to the present, with a particular focus on United States history from colonial days up to the recent past. Specific themes and focus may vary, but emphasis will be placed on multiple perspectives on the overall history of the so-called “New World,” presenting a complex view in place of the conventional one; for instance, imagining the settlement pattern of the continent as originating in the Great Plains or the West Coast rather than the East Coast. Field trips will explore the record of native, Spanish, and more recent settlement of our local area.

History Elective Courses

MIDDLE EAST

(2/3 credit History, Prerequisite – American History)

This two-mod course will take on two to three significant case studies that illuminate contemporary challenges and movements in Middle East politics, as a way of exploring the geopolitics of globalism. The course will likely include such complicated events as the Iranian Revolution, the formation of Israel and the challenges of occupied Palestine, and American war and involvement.

SAS AMERICAN HISTORY

(1 credit – History, required 11th Grade; Prerequisite – Humanities 2, dept. min. GPA of 3.1 or departmental approval)

This course will introduce students to a college-level examination of American history, creating not only the skeleton of timelines, maps, terms, themes, and causal chains that will help students understand the current situation, but also a sophisticated grounding in historiography itself. It will take on the same timespan, with the same basic unit structure, as the American History course--that is, from Pre-Columbian to present--but will approach it with both wider reading, especially in primary sources, and greater depth, focusing on the visible interpretive gaps between primary and secondary sources, and between historians' various approaches. The goal will be for students to understand that just as all conditions and ideas--including the now--have specific situations in time, place, and developmental pattern, all history itself is similarly situated, so that we must examine our own analysis in the context of our historical times, places, and ideologies. This situation will consider economic, environmental, technological, and other material conditions as well as cultural and social pressures. Pedagogy will therefore lean not only on evidentiary interpretation, but also on techniques for larger understanding of historiographical perspective, considering the historical situation of the historian or commentator as well as their subject.

The course will build toward a culminating research paper, with annotations, footnotes, and extensive criteria for source breadth, comparison, and analysis. Classroom activities will engage the history in a process of open debate and sometimes simulation, in which honors students will lead both the activities and to some extent their direction. These activities will be fueled by regular readings of undergraduate-level survey texts, like Eric Foner's *Give Me Liberty* or Ronald Takaki's *A Different Mirror*, and primary-source supplements.

SAS AUTOCRACY & TOTALITARIANISM

(2/3 credit History, Prerequisite – American History)

This course examines the rise of totalitarian ideology in the 20th century. It will likely center around a deep dive into a particular regime, like that of the Nazi Party in Germany, or the Communist government of the Soviet Union, Cuba, China, or North Korea, but may engage in comparative study as well. Students will learn the finer points of the complex interactions and distinctions between fascism, socialism, communism, and the like, and examine also the ideological critiques of capitalism and democracy that drove the modern nation-state toward dictatorship in particular cases.

INDEPENDENT STUDY

Independent Study encourages self-directed inquiry. In addition to the curriculum offered, students may propose and develop a one “block” course for independent study that is not offered through the school's academic program. The course is taken as an elective during one of the seven (7) mods.

With the help of the student's advisor, the student will identify a research question, plan a literature review, and design a comprehensive performance task to synthesize and creatively communicate findings from the study. The literature review may include formal interviews with experts, or literature created by organizations.

Students may complete multiple independent study blocks with approval.

In some cases, an advisor may recommend that the student enroll in a mutually selected online course, if the course offered through the online program is similar to the student's proposal. E.g. BYU Online High School or One Schoolhouse (with approval only).

Requirements

Submission of a complete proposal during the course selection period.

Grading

The advisor to the independent study is responsible for assigning the final grade, based on the criteria outlined in the syllabus, unless the course is taken through an online program.

MATHEMATICS

The Math curriculum, inspired by Sequoyah's mission, challenges students to develop an intellectual framework they can use to solve problems. Although the curriculum connects to practical applications including science, the humanities, art, music, athletics, and technology, we also encourage students to appreciate the beauty of mathematics for its own sake. The curriculum is built to develop and resolve a tension between two fundamental perspectives on what math is: counting (using sum and product notation) and geometry (through constructions and transformations). As students engage in projects, they encounter a progressive set of "crises" throughout the year that guide them toward an ever more expansive understanding of what we mean by the word "number." Ultimately, they are able to unite both perspectives by applying the properties of exponents to implement geometrical transformations.

Mathematics Required Courses

ALGEBRA I | FOUNDATIONS 1: THE UNITY AND DIVERSITY OF MATHEMATICS

(1 credit – Mathematics; Prerequisite: Pre-algebra & mastery of the placement test; offered every year)

Build the foundation of your mathematical skills by creating and using definitions for the core concepts of Algebra. Apply your framework to real-world questions and dialogue as a group how effective your problem-solving methods are. Finally, consider the underlying philosophical issues and how deepening your understanding of math can expand your worldview. Topics include: Properties of Equality, Sets of Numbers, Summation and Product Notation, Exponent Rules, Binomial Theorem, Completing the Square, Functions, Probability, the Distance Formula, and Radical Equations. These topics challenge our understanding of what numbers are and motivate students to define more expansive and powerful sets, including Natural Numbers, Integers, and Rational Numbers. Finally, students develop the idea of real and imaginary numbers, which they will study in more detail throughout the rest of the curriculum.

ALGEBRA 2 | FOUNDATIONS 3: COMPUTATION

(1 credit – Mathematics; Prerequisite: Foundations 2 or Geometry; offered every year)

The final course of Sequoyah's Foundations series challenges you to consider several outstanding questions about math. Which is better in any given circumstance: Sigma or Pi notation? How do imaginary numbers help us complete Algebra and simplify Geometry? Topics include: The Counting Principle, Polynomials, Matrix methods, Rational Equations, Logarithms, Exponentials, Sinusoids, and Composite functions. Students use matrix methods to model some of these functions with high order polynomials in order to develop power series representations for them. Finally, students use those series with imaginary numbers to discover Euler's Formula, which will provide a powerful insight into the topics they will study in Precalculus.

GEOMETRY | FOUNDATIONS 2: OUR MATHEMATICAL WORLD

(1 credit – Mathematics; Prerequisite: Foundations 1 or Algebra I; offered every year)

Extend the foundation of your mathematical skills by creating and using definitions for the core concepts of Geometry. Apply your framework to real-world questions and dialogue as a group how effective your problem-solving methods are. Finally, consider the underlying philosophical issues: how does deepening your understanding of Geometry lead you to new methods of Algebra? The central methods of Compass Construction and Proof guide inquiry into Triangle Congruence, Similarity, Trigonometry, Arcs, Chords, Polygons, Solids, and Transformations in the Coordinate Plane. Students examine which kinds of numbers can be constructed with a compass and how imaginary numbers simplify geometric transformations.

PRE-CALCULUS: THE ELEMENTARY FUNCTIONS

(1 credit, 3 blocks – Mathematics; Prerequisite: Foundations 3; offered every year)

After a review of the riddle of imaginary exponents and the methods necessary to solve it, students discover the surprisingly simple formula that unites all aspects of their mathematical knowledge so far. For the remainder of the course, they make extensive use of fundamental operations to develop much of trigonometry, which they verify through geometrical methods grounded in the ideas of proof and construction. They use sinusoids to model a variety of oscillating physical systems and general triangle rules to solve problems related to vectors in two and three-dimensional space. Finally, they apply their trigonometric knowledge in rectangular, parametric, and polar form to describe all the conic sections they discovered in their Foundations I class.

Mathematics Elective Courses

SAS CALCULUS

(1 credit – Mathematics; Prerequisite: Pre-Calculus; offered every year)

Students prepared for Calculus by the preceding curriculum will enjoy an approach based on the same principles of exploration and discovery. Students will address applied problems related to area and volume to motivate a framework for precision using epsilon-delta notation. Students then will debate the intuition behind the idea of the infinitesimal before deciding to embark on a study of instantaneous rates of change motivated by the Fundamental Theorem of Calculus. Students will discover that an approach based on differentials is a key to unlocking a wide variety of problems in the real world. Finally, they will explore the nature of infinite series by providing a new foundation for the power series they used throughout their Foundations curriculum.

SAS HIGHER MATHEMATICS

(1 credit – Mathematics; Prerequisite: SAS Calculus; offered every year)

Students who have completed Calculus by taking summer classes or entering the curriculum early have the opportunity to learn about the wide variety of advanced math classes that build from Calculus. Topics include: Vector Calculus, Ordinary and Partial Differential Equations, Linear Algebra, Statistics and Probability, Nonlinear Dynamics, Real and Complex Analysis, Number Theory, Cryptography, Topology, Graph Theory, Abstract Algebra, and the Theory of Computation. Prerequisite: Calculus

STATISTICS

(1 credit – Mathematics; Prerequisite: Foundations 3; offered every year)

We introduce the tools of statistical hypothesis testing through a review of counting and probability. Beginning with Bernoulli trials and Binomial probability, we numerically explore the limit to informally introduce the concept of a continuous probability distribution. Students then do a series of small projects as a survey of the different methods. Throughout, we direct students to clearly formulate hypotheses, to simulate results under different scenarios before collecting real world data, and attending to effect size in addition to p values. Finally, we close with a philosophical reflection, including the debate over reproducibility, the relationship between statistics and epistemology, and the role of ethics.

Mathematics Mini-Course Electives – Z Blocks

MATHEMATICIANS

(1/6 credit – Other Elective)

This class promotes inquiry into the historical and biographical context of mathematical thought. Students will research and give presentations on the people of ancient Egypt, Mesopotamia, India, China, Greece, Rome and the Americas to answer the question, “Why are we so fascinated by numbers?” They will trace the evolution of mathematical thought to the modern day to answer the more basic question, “What are numbers?” in parallel with the sequence of the mathematics Foundations curriculum. Students will examine the cultural factors that have led to different levels of access to mathematical knowledge, and will do a project to promote others to recognize themselves as “mathematicians.”

SCIENCES

The science curriculum helps each student develop an approach to studying the universe grounded in physical principles and practical applications. By taking physics first, students can progressively build up their models from the foundational physical concepts to the most complex biological systems. Throughout, they practice the principles of hypothesis testing in inquiry-driven projects. Students are expected to think critically about the world around them, and to develop solutions for issues facing the global community.

Science Required Courses

CONCEPTUAL PHYSICS

(1 credit, 9th grade – Science)

This class will apply students' understanding of basic algebra to solve problems in physics. Rather than provide students immediately with equations, students discover them through Socratic questioning and interactive labs. Science communication skills will be practiced throughout the term, as students will be expected to regularly give presentations to their classmates and engage in peer teaching. Students will be asked to critically evaluate their understanding of the world around them with an eye to the global implications of certain physics concepts. The course will be oriented around three big projects, each of which will encompass a major area of Physics. Although certain themes (such as energy, motion, and atomic structure) will be present throughout the course, students will discuss fundamental topics in mechanics, electricity and magnetism, and waves and optics.

CHEMISTRY

(1 credit, 10th grade; Prerequisite: Conceptual Physics)

Building on the foundational concepts of physics that students learn in 9th grade, students explore the discipline of chemistry with a greater purpose: understanding that chemistry can be reduced to the application of a handful of basic rules and principles. Students begin the course by looking at the role of math and dimensional analysis in chemistry. A focus on the role of error and uncertainty in science is particularly important as it sheds light on the course's essential question of the role of numerical literacy in our decision making. Students then take a dive into chemistry by looking at phases of matter and phase changes. The concept of energy and energy states is introduced as students explore the factors that influence the state of matter. The concept of energy is revisited throughout the course as students look at atomic structure, atomic interactions (bonding), molecular interactions, and chemical reactions. Students connect the particular topics to social and cultural knowledge through readings and informal discussions. Additionally, through inquiry-based laboratory experiments and projects, students build a solid foundation in the key concepts in chemistry and hone their critical thinking skills, understanding of the scientific method, and scientific writing and presentation skills. The takeaway principles from the course allow students to apply chemistry to other areas of study, including the 11th grade biology course.

BIOLOGY (OPTIONAL SAS BIOLOGY)

(1 credit, 11th grade – Science; SAS Option; Prerequisite: Chemistry)

Through real-world biological applications students will gain a deeper understanding of life on earth, how life evolved, and how cells work individually and in collaboration to make higher organisms. In the second part of the course we will study genetics. Students will learn how four simple molecules arranged in strings of DNA give rise to the astonishing biological diversity of the entire planet. In the final mod, students move to whole organisms. They will learn how organ systems within the human body work together in health, and what can go wrong in disease. Students will discuss biodiversity, the animal kingdom's response to climate change, and how humans interact with the ecosystem both productively and destructively. Throughout the course, students will discuss how scientists have figured all this out through scientific thinking and experimentation.

Science Elective Courses

SAS BIOLOGY

(1 credit; Prerequisites: Foundations I, Chemistry and departmental approval)

In SAS Biology students will study the natural world through classroom discussions and in-depth scientific labs. They will begin with an immersive plunge into scientific thinking, including how to read primary-source papers and interpret raw data. Students will investigate cells to learn about their individual parts and how they work together to maintain homeostasis, and what happens when pathogens disrupt those systems in human disease. They will discuss stem cells, cellular differentiation, and different types of human cells, focusing on neurons and cells of the immune system. In the second part of the course, we will study genetics. Using current techniques with the genetics model organism *Drosophila melanogaster* we will study Mendelian genetics and natural selection. Students will learn how organ systems within the human body work together in health, and what can go wrong in disease. In collaboration with a herpetology lab at the University of California, Santa Cruz, we will study our local population of lizards and discuss how they will respond to climate change. Throughout the course students will research independently the cellular changes that occur in cancer cells to allow them to divide uncontrollably and migrate in the body. Students will design experiments to test a drug they come up with and will put together a presentation using primary literature explaining why their treatment would be useful.

BIOLOGY OF DISEASE

(1/3 credit – Other Elective; prerequisite: Biology and dept. approval)

This course offers a unique approach to exploring the human body's systems by studying them on a molecular and systemic level through diseases. Each week, whether we're studying infectious diseases like malaria or genetic diseases like muscular dystrophy, we'll examine the ways foreign bodies exploit normal molecular functions and see how those disruptions affect us. Students will review primary research in the form of peer-reviewed journal publications and clinical trial reports and present findings to general audiences, while at the same time we will be discussing how to evaluate the validity of online sources to separate real from pseudo-science. For each disease, we will discuss the history of our understanding of the disease and the big questions that remain unanswered. The course culminates in an overview of epidemiology and the forces that underpin global health challenges and epidemics.

SAS BIOLOGY OF DISEASE

(2/3 credit – Other Elective; prerequisite: SAS Biology and dept. approval)

Similar to Biology of Disease, this course examines additional diseases and deepens the level of analysis.

SAS CHEMISTRY

(1 credit; Prerequisite: Chemistry and departmental approval)

Advanced chemistry revisits some of the same topics from the general chemistry course and takes a more in-depth look while exploring more of the complexity and nuance that characterizes this field of study. The course focuses intently on experimental design, scientific communication, and making chemistry relevant to our community. Students engage in more in-depth projects and assignments as a means of exploring the complex topics of chemical bonding, including ionic, covalent, and metallic compounds, VSEPR geometries, and intermolecular forces; chemical reactions, including stoichiometry, oxidation-reduction, and solubility; acid-base theory, including Arrhenius, Bronsted-Lowry, and Lewis acid/base definitions, titrations, and reactions of acids with metals and carbonates; thermodynamics, including enthalpies of processes, entropy, Gibbs Free Energy, and the gas laws; chemical kinetics, including factors that influence the rate of chemical reactions, and modeling the rate of reactions using mathematical functions; organic chemistry, including nomenclature of simple hydrocarbons, functionality of foundational functional groups, and the Fischer Esterification mechanism.

GRAND CHALLENGES OF ECOLOGY (2019-2020)

(1/3 credit – Other Elective)

Through a variety of field trips, original research projects, and class discussions, students will gain an understanding of the ways in which living things interact with one another and their environments. From coral reefs to the highest peaks, we will be investigating habitats big and small, hard to reach and right under your nose (even IN your nose!). Students will employ current techniques used by working ecologists to collect and analyze data, familiarize themselves with primary literature, with a particular emphasis on how humans uniquely impact habitats through population growth and climate change. Having given students a global perspective on ecological issues, the course concludes with the hyperlocal: we study urban ecology with a focus on the animals that make their homes in and around the Los Angeles River. Bring boots—it's going to get muddy.

SAS GRAND CHALLENGES OF ECOLOGY (2019-2020)

(2/3 credit – Other Elective)

Similar to Grand Challenges of Ecology, this course examines additional concepts and case studies, and deepens the level of analysis.

SAS PHYSICS: ASTEROID AVOIDANCE

(1 credit; Prerequisites: Conceptual Physics & concurrent with SAS Calculus)

After completing the Foundations curriculum, students will be prepared to take a calculus-based approach to a Grand Challenge in Physics. Students will be addressing the problem of asteroid impacts on the Earth, and will develop defense systems based on our understanding of mechanics and engineering principles. Students will predict the trajectory of near-Earth asteroids by applying Kepler's Laws and an understanding of projectile motion. They will also plan routes to intercept asteroids by solving systems of equations. Students will calculate the energy which would be released upon impact for a variety of asteroid sizes, velocities, and impact angles. They will discuss a myriad of defense mechanisms to protect ourselves against asteroid impacts which will apply concepts from mechanics, electricity and magnetism, waves and optics, and nuclear physics. Students will be asked to design their own solution and pitch it to the rest of the school in a formal scientific poster presentation. In this class, they will practice skills of data collection, visualization, and analysis, critical reading of primary-sources, evidence-based argumentation, experimental design, and engineering principles. Our exploration of this problem will also require students to learn to code in Python, write papers using LaTeX, and work with large data sets.

Science Mini-Course Electives – Z Blocks

ASTRONOMY

(1/3 credit – Other Elective)

Students will explore the story of life in our universe, starting with the creation of the Solar System and the conditions necessary for life on Earth, and expanding to the exploration of the other planets in the Solar System. Students will also discuss the methods we have for exploring planets around other stars in the Milky Way galaxy. We will end with a discussion of our own space program and search for extraterrestrial life, including the environmental, political, and social impacts of such work.

BRAIN & COGNITIVE SCIENCES

(1/3 credit – Other Elective)

The human mind has fascinated philosophers, leaders, and laypeople alike for millennia. The search for answers about what makes us tick, since the days of the Delphic imperative to “know yourself,” has culminated in an explosion of discoveries and theoretical revisions during the past century, in a wide range of fields collectively known as the “Brain and Cognitive Sciences”. This class will survey the major findings about thought and behavior from the study of psychology, neurobiology, computation, linguistics, genetics, artificial intelligence, and brain imaging. Students will download and analyze open source datasets in order to visualize the brain areas associated with different mental functions, and will critically evaluate the methods of research papers that are popularly quoted in the press. Finally, students will present their own thoughts on the thorny philosophical questions about consciousness and free will.

ECOLOGY OF THE ANGELES CREST

(1/3 credit – Other Elective)

This course is designed to guide students through the explorations of the rich and diverse ecological system of the Angeles Crest while focusing on the essential question of how does urbanization affect natural habitats. Specific topics covered will include land management, the tension between indigenous species and invasive species, change of climate and habitat, and conservation and restoration efforts. Through site surveys, fieldwork, and literature review, this course will provide students with the framework necessary to investigate an ecological system of their choice as they learn about the system in our backyard.

GEOLOGY OF THE SOUTHWEST

(1/3 credit – Other Elective)

Students will begin by trying to explain the land formations they see around them in Pasadena (e.g. the formation of the San Gabriel Mountains), as well as those they have encountered during field studies courses (e.g. the Grand Staircase-Escalante National Monument). In doing so, we will explore how we know what we know about geology. We will then study some of the topics related to land and water use both in Pasadena and near our field studies sites. The final project for this class will be the creation of a “User’s Guide to Pasadena” and a “User’s Guide to Sequoyah Field Studies” which will highlight features of these areas studied in this course.

LAB METHODS IN BIOCHEMISTRY

(1/6 credit – Other Elective)

In this course, students will be given the opportunity to develop and hone their chemistry, biochemistry, and biotech laboratory skills while completing projects and labs designed specifically for the class. Essential questions for the course include a reinterpretation of what does it mean to be scientifically literate, and what characterizes green and sustainable lab management. In answering these essential questions, students will focus on practicing and developing lab methods that are most pertinent and common, such as titration and filtration, as well as adapting lab methods and procedures from scientific literature.

LIFE IN THE UNIVERSE

(1/3 credit – Other Elective)

Students will explore the story of life in our universe, starting with the creation of the Solar System and the conditions necessary for life on Earth, and expanding to the exploration of the other planets in the Solar System. Students will also discuss the methods we have for exploring planets around other stars in the Milky Way galaxy. We will end with a discussion of our own space program and search for extraterrestrial life, including the environmental, political, and social impacts of such work.

Other STEM Mini-Course Electives

ARDUINO PROGRAMMING

(1/6 credit – Other Elective)

This course is designed as an introduction to Arduino programming. You can join this class with no background in programming, and you will learn to build circuits, adjust and augment Arduino code, and integrate sensors, motors, and servos into your circuits. If you already have experience with Arduino, you can use this course as a chance to push yourself and build something complex and meaningful.

CIRCUITRY

(1/6 credit – Other Elective)

In this one mod course, students will be introduced to the basics of creating electronic circuits. Students will learn about the different components including resistors, capacitors, diodes, LEDs and potentiometers. Students will learn to draw and follow basic schematic diagrams and use breadboards to prototype circuits. Students will also learn to solder so that by the end of the mod they will be able to create and solder basic circuits.

COMPUTER ARCHITECTURE

(1/3 credit – Other Elective)

This two-mod elective will give students a foundation in the basics of electronic computation. Students will be introduced to the concept of the switch as the fundamental component underlying computation and will learn about electronic switches including relays, vacuum tubes and transistors. They will also learn about Boolean algebra and logic gates and use transistors to construct different logic gates. In the later part of the course, students will learn about integrated circuits and how they can be interfaced with to perform more complex computations.

INTERACTIVE ANIMATION IN JAVASCRIPT

(1/3 credit – Other Elective)

Jump into programming quickly using the Canvas element of HTML5/JavaScript. No programming experience is needed to get started coding in this popular and useful language. This class will teach the introductory skills needed to create simple programs and animations from scratch, such as how to draw shapes, display images, and respond to user events. The class will conclude with a final project, such as a fun game or a practical programming solution.

ROBOTICS

(1/3 credit – Other Elective)

In this course, students will work on their prototyping skills, from the design phase through to the building and testing phase. They will practice skills in engineering and carpentry, and will have a chance to put their robotics expertise to work by creating electronic interfaces for mechanical designs. It is recommended that students take the Arduino programming Z block before taking this course, but it is not required. It would be helpful to have some familiarity with circuits before taking this course.

PYTHON PROGRAMMING

(1/3 credit – Other Elective)

This course will introduce students to the Python programming language. Students will learn to work with an object-oriented language, manipulate tables and lists, and visualize trends in data. They will explore the applications of the Python language in robotics, game development, and academic research. Students will use Python to complete a project of their own design at the end of the course. There are no prerequisites for this course, but periodic homework will be assigned.

WORLD LANGUAGE

By gaining fluency in another language, students gain a deeper cultural perspective. Students are required to take three years of Spanish* or complete two years through Spanish 4. Students are able and encouraged to learn other languages through online courses with support from Sequoyah staff.

*Exceptions are made for transfer students who have already completed coursework in another World Language. Course requirements can be met by completing online coursework for that language.

World Language Required Courses

SPANISH 1

(1 credit, 3 blocks - Spanish)

This course is designed as an introduction to Spanish language, culture, and traditions for students without any background in Spanish or with limited experience with Spanish. Communicative units focus on basic quotidian greetings and introductions, school, family, pastimes, travel, shopping, daily routines, food, and celebrations, while engaging all three modes of communication (interpersonal, presentational, and interpretive). The thematic units explore each topic through a variety of mediums, such as audiovisual, role plays, writing and games. A key component of this course is the project based approach. Projects will vary from presenting in front of the class to building something, filming, or even putting on a performance.

SPANISH 2

(1 credit – Spanish; pre-requisite: placement test or Spanish 1)

Spanish 2 continues to build on the foundations of Spanish 1 and incorporates several levels of complexity, both grammatical and lexical. Students will learn most of the verb tenses, get introduced to a rich variety of vocabulary, and will get the opportunity to make sense of it all by constantly using Spanish in context in a meaningful and fun way. A key component of this course is that we will be closing each unit with a project. Projects will vary from presenting in front of the class to building something, filming, or putting on a performance. By the end of this course, students should be able to engage in a conversation in Spanish on a number of topics, being able to express feelings, aspirations, plans, interests and opinions with a reasonable level of depth. Students will discover culture through a sequence of key themes including: self-portraiture, health and well-being, technology and tools, domestic life and roles, nature, Hispanic cityscapes, healthy living and recreation, the people that work around me, and art of Spain and Latin America.

SPANISH 3

(1 credit – Spanish; pre-requisite: placement test or Spanish 2)

The third-year Spanish class reinforces the mechanics (grammar) of the language while exploring the language and culture as an end in and of itself: literature, comparative studies, printed media, current events, and a general survey of the peoples and places in Spain and the Americas. Some of the topics that will be explored include interpersonal relationships and community identity, entertainments and sports, daily life and traditions, health and well-being, nature and the environment, migration and labor, and technological practice of Spain and Latin America.

World Language Elective Courses

SAS SPANISH 4 & 5

(1 credit – prerequisite Spanish 3 and Spanish GPA of 3.0 or greater or department approval)

The SAS Spanish 4 course is designed with an emphasis on developing students' advanced-level reading and writing skills at the same time it improves their listening comprehension and speaking proficiency. They will acquire a more sophisticated vocabulary and engage an intense deployment of grammar, including more complex sentence structures, so that they have the ability to perform advanced tasks in interpretive, presentational, and interpersonal communication in Spanish. Students explore works of literature, films, current events and museum exhibits to develop their critical thinking skills and understand the cultural and social contexts of the Spanish-speaking world both abroad and in their own communities. Drawing from that knowledge as well as personal experience, they will be able to prepare and deliver a series of presentations and projects. The class is conducted entirely in the target language.

World Language Mini-Course Electives – Z-Blocks

CHICANX HISTORY & CULTURE

(Up to 1 credit – Other Electives)

What are the differences between the terms Mexican-American, Chicano, Latino, and Hispanic? In this six-mod series, students can take a combination of mod courses to earn up to a full credit in Chicano Culture.

Students will learn about the major figures, writers and artists of the Chicano Movement. With Los Angeles as an important center for Chicano cultural production and activism, students will have the opportunity to go out into the community to visit art galleries and speak with artists and activists of the Chicano community. Students will also delve into how some of the issues central to the Chicano experience are represented in the cultural production that emerged during and after the Chicano Movement. The main focus of the courses will be on identity, gender, representation, and social transformation in Los Angeles. Students will examine how Chicanas and Chicanos invent, transform, subvert, resist and/or assimilate various cultural forms through the art they create.

LATIN AMERICA & SPAIN

(Up to 1 credit – Other Electives)

This course marks the beginning of a six-mod series over 2 years surveying, in Spanish and English, the cultures, politics, histories, and current controversies of Spanish speaking countries. In this course, we will take a deep dive to explore case studies investigating the art, music, film, literature and media that create the narratives of place in South America. Along the way we will discover themes that both unite and differentiate these South American cultures. Courses in this series are designed to be taken independently, but together provide a more comprehensive look at Latin America and Spain.

WORLD LANGUAGE INDEPENDENT STUDY

(Credits depending on course work; prerequisite GPA of 3.0 or higher and Advisor approval)

This self-paced blended language learning experience provides students with an opportunity to explore other world languages for an elective credit. Students will have a staff member to support the online learning experience.



SEQUOYAH SCHOOL

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