STEM SCHOOL

HIGHLANDS RANCH

HIGH SCHOOL 2025-2026

ACADEMIC PLANNING GUIDE

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OUR MISSION

NEVER STOP INNOVATING

OUR VISION

WE ENVISION A WORLD OF EXPONENTIAL POSSIBILITIES WHERE EVERY CHILD DEVELOPS THE INNATE KNOWLEDGE, SKILLS, CREATIVITY, AND CHARACTER TO THRIVE, LEAD, AND SUCCEED IN AN EVER-CHANGING FUTURE.

PROGRAMMING INFORMATION

Advanced Placement (AP):
The Advanced Placement program is a national academic program sponsored by the College Board. All Advanced Placement course grades are weighted (additional 1.0).

Credit: A measure of credit earned in a course. One unit of credit equals two successfully completed semesters of high school work. One semester of successfully completed high school work equals .5 credit or Carnegie units.

Concurrent Enrollment (CE)
A student is simultaneously enrolled in a local education provider and in an institute of higher education or career and technical course that will render college credit and satisfy credits toward high school graduation. Please see Concurrent Enrollment Policy for high school credit equivalency and enrollment information.

- **All 11th, and 12th graders only** - All Concurrent Enrollment (CE) courses will receive a credit of 1.0 or higher unless otherwise stated in the course selection.
- **All 9th & 10th graders** - To align with DCSD graduation requirements, Concurrent Enrollment (CE) courses will receive 0.5 credits, except for the following P-TECH Courses or as identified on the course selection sheet.

Robotics and Automation	Cybersecurity	Game Design	Aerospace
CE CAD 2455 CE CAD 2660 CE ELT 1206 CE ELT 2254 CE ELT 2252 CE ELT 2455 CE ELT 2367 CE ELT 2358	CE CSC 1019 CE CNG 1021 CE CNG 1022 CE CNG 1024 CE CNG 1025 CE CNG 1032 CE CIS 1018 CE CIS 2020 CE CIS 2040 CE CIS 2043	CE MGD 1011 CE MGD 1043 CE CSC 2027 CE CSC 1019 CE CSC 1061 CE CSC 2000 CE CSC 2017 CE CSC 1026	MSU AES 1010 MSU AES 1040

Cumulative GPA
A student's earned Grade Point Average for all semesters combined. *This feature is available for high school students only and is presented in both weighted and unweighted formats on the student's transcript.*

GPA
A student's earned Grade Point Average for one semester or one year.

CLASS OF 2026-2027		
Grades	Unweighted GPA	Weighted GPA
A	4.0	5.0
B	3.0	4.0
C	2.0	3.0
D	1.0	2.0
F	0	0

CLASS OF 2028 AND BEYOND		
Grades	Unweighted GPA	Weighted GPA
A	4.0	5.0
B	3.0	4.0
C	2.0	3.0
D	1.0	1.0
F	0	0

Prerequisite
A course that must be successfully completed before taking another course, demonstrated proficiency in previous course or standardized test, and/or teacher recommendation.

P-TECH
Pathways in Technology Early College High Schools (P-TECH) is an innovative partnership between a school district, a community college, and one or more local high growth industry employers. Students begin as early as ninth grade and continue for up to six years (i.e. high school and two equivalent years of college). Students graduate with both a high school diploma and an industry-recognized associate degree, in addition to gaining relevant workplace skills.

W/F and W/P
Denotes a withdraw/fail and withdraw/pass respectively

HIGH SCHOOL EXPECTATIONS

Adding/Dropping a High School Class
School counselors make ALL schedule changes. Find their contact information on our website.

Schedule Change Process

- Requests made within school days 1-10 will be made, if reasonable, at student request. Students must complete a schedule change request form, obtaining appropriate teacher signatures. The school counselor must approve and complete all schedule changes.
- Requests made during school days 10-20 will be considered if the requesting student maintains a minimum number of classes. During this timeframe, administrative and/or parent permission may need to be obtained. A student can not drop a class, but will need to "withdraw". The requesting student's transcript will reflect either a "W/F" or "W/P", depending on their grade at the time of withdrawing. There will be no GPA consequence.
- Requests made after school day 20 will be considered if the requesting student maintains a minimum number of classes. Requests made late into the semester will require administrative and parent approval. The student must withdraw from the class and his/her transcript will reflect a "W/F" or W/P", depending on the grade at time of withdrawing. There is a GPA consequence as if having earned an F for the class. A "0" (zero) will be factored into their GPA.
- Additionally, students will have the opportunity to request schedule changes prior to the beginning of each semester.
- For concurrent enrollment guidelines on adding and dropping a class, please see the institution's guidelines. For questions on the interpretation, please see the HS Career Discovery Coordinator.

Availability of Classes
While every effort will be made to provide the classes a student has requested during registration, some classes may not be available due to student enrollment numbers, staffing, and budget.

Community Service
STEM follows DCSD's community service guidelines. Students need 20 hours of community service between the summer prior to 9th grade and the end of grade 12.5 of those 20 hours can be completed at STEM School Highlands Ranch. STEM Scholar requires 100 community service hours. If approved by a school administrator, additional hours completed at STEM can count toward the STEM Scholar requirement.

Course Load
All STEM school students are required to take a full schedule of eight (8) classes per semester in grades 9 and 10. If earned credits toward meeting requirements for graduation permits, students may be allowed to take six (6) classes per semester in grade 11, and six (6) classes per semester in grade 12. Seniors must take a minimum of six (6) classes in order to be a student at STEM School Highlands Ranch.

Courses taken through outside programs (Non CE ACC/or CE Option 3):
If a student decides to take a course for high school or dual (college and high school) credit, the student must receive approval from the high school counselor. Examples of outside programs are BYU and eDCSD. The student must complete the "Non-STEM Course Approval Form" and submit it to the counselor. The counselor will check to see if the program credit will transfer to STEM High School. STEM will only accept up to 2.0 credits of outside courses toward a STEM diploma. Please note: For ACC Concurrent Enrollment options, students must consult with our Career Discovery Coordinator, not the high school counselor.

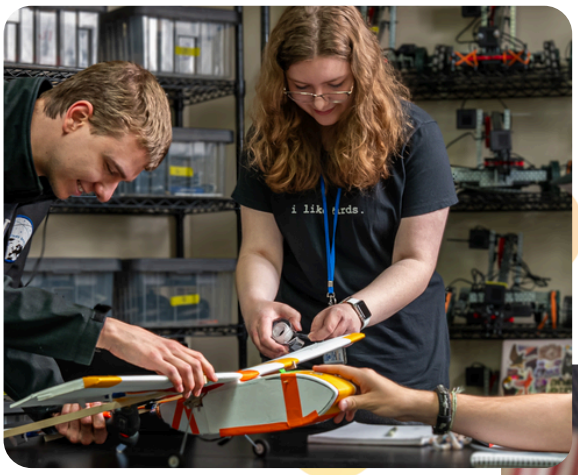
Early Graduation
Students planning to complete their high school course work in less than eight semesters must develop an early graduation plan with their principal, counselor, and parents. A student who plans to graduate early must complete all requirements set by the State Board of Education and the STEM Board of Directions.

Enrollment
Students enrolling at STEM School who have withdrawn from a previous school must enroll three weeks prior to the end of a semester in order to receive credit from STEM for the semester. Students who have not been in attendance at a school during a semester may not receive credit at STEM if they enroll three weeks after the semester begins. If a student is over age 17, alternatives for earning credit during the semester will be presented. If a student is not yet age 17, the student will be enrolled and attend a full schedule, but credit may not be granted.

Course Fees
As per STEM Board policy, where additional charges are required for specific courses, the costs will be noted in the course description. *Fees are subject to change.

Graduation
Douglas County School District requires that a student must complete all graduation requirements to participate in the graduation ceremony. Completion of graduation requirements must be documented 48 hours prior to the ceremony.

Incomplete Grades
A student will be allowed to make up an incomplete grade within 10 school days after the end of the semester. If the grade is not made up within 10 school days, the incomplete will become an “F” on the transcript.



HIGH SCHOOL CREDIT FOR MIDDLE SCHOOL STUDENTS- 2017-18 AND BEYOND

COMPLIANCE WITH DCSD POLICY IKF-R-2

A student may earn credits towards a Douglas County School District high school diploma prior to the official start of the 9th grade year.

Compliance with DCSD Policy IKF-R-2

A student may earn credits towards a Douglas County School District high school diploma prior to the official start of the 9th grade year.

1. Credit will automatically be awarded for earning an “A” in:
    a. Any Douglas County School District high school summer session content course(s) completed preceding the start of the 9th grade year.
    b. Any Mathematics course(s) which exceeds the expectation of an Algebra 1 course.
    c. Any World Language course(s), which exceeds the expectations of Level 1.
    d. Any content area course, meeting, Board of Education criteria and which exceeds the expectations of a typical Douglas County 9th grade course as approved by the high school building administration.
2. Students who earn a grade other than an “A” will declare during their Junior year whether or not the course will be used to meet high school graduation requirements by submitting a Declaration of Credit for Middle School Courses form to the high school registrar. Once the form is submitted, the credit cannot be removed from the high school transcript.

Independent Study Policy and Process
Independent study classes are designed to help students explore content that their schedule and/or course offerings do not easily allow. Students can work with a STEM teacher to design a meaningful independent study experience for a class not offered at STEM.

Independent study courses are only available for juniors and seniors and require counselor approval. Students interested in such a course should confirm teacher participation and then see the counselor to understand the process and acquire course paperwork.

Independent study classes are graded on the traditional A - F scale.

PE Waivers
Students may elect to waive up to two semesters of Physical Education through participation in club or high school competitive sport. Details can be found on the PE Waiver form available from the HS Main Office and school website.

STEM Scholar
If a student has decided to graduate as a STEM scholar, this decision must be declared no later than April of Junior Year or November of Senior Year.

Teacher Aide Maximum (TA)
Students in grades 11 or 12 are allowed to be a teacher's aide (TA) up to two times for credit, or .25 each time. If a student decides to be a TA after taking the course twice, the student will not receive credit.

GRADUATION REQUIREMENTS

Department	Standard Diploma	STEM Scholar
English **Most colleges require 4 years of English, not just 4 credits	4	4
Mathematics • Algebra II is required for graduation ** Most colleges require 4 years of math, not just 4 credits	4	4
Social Studies • US Government is required for graduation • Either US History, AP European History and/or AP World History is required for graduation	3.5	3.5
Science	3	3
World Language (must be the same language)	2	2
STEM Elective	3	7
Fine Arts	1	1
PE/Health	1	1
General Elective	2.5	4.5
Total	**24**	**30**

This is for the 2026-2027 graduating class. For classes beyond 2027, see the next page.

CLASS OF 2026-2027

Other Graduation Requirements	Standard Diploma	STEM Scholar
Community Service Requirements	20 hours	100 hours
ICAP Completion	required	required
AP/CE Courses	n/a	At least two courses
GPA Requirement	n/a	3.5 or higher
Demonstration of Competency on Exam	required	required

CLASS OF 2028 AND BEYOND

Standard diploma requirements from above plus the following:

Other Graduation Requirements	Standard Diploma	STEM Scholar
Community Service Requirements	20 hours	100 hours
ICAP Completion	required	required
AP/CE Courses	n/a	At least 8 credits
GPA Requirement	n/a	3.75 or higher
Demonstration of Competency on Exam	required	required

COMPETENCY EXAMS FOR GRADUATION OF YEARS 2021 AND BEYOND

In accordance with Superintendent File: IKF-R-3 Graduation Requirements, all students must demonstrate college and career readiness in both Mathematics and English by meeting or exceeding the required level of readiness in one of the following methods:

Exam	English	Math
Classic Accuplacer	62 on Reading Comprehension or 70 in Sentence Skills	61 on Elementary Algebra
Next Generation Accuplacer	241 on Reading or 236 on Writing	255 on Arithmetic (AR) - or - 230 on Quantitative Reasoning, Algebra and Statistics (QAS) - or - 230 on Advanced Algebra and Functions (AAF)
ACT	18 on ACT English	19 on ACT Math
ACT WorkKeys	Bronze+	Bronze+
Advanced Placement	2	2
ASVAB	31	31
Concurrent Enrollment	Passing Grade	Passing Grade
SAT	470	480
District Capstone	Individualized	Individualized
Industry Certificate	Individualized	Individualized

Capstone

For students in the graduating class of 2021 and beyond, all students must demonstrate college and career readiness in both Mathematics and English by meeting or exceeding the required level of readiness. STEM students who have not met the standardized assessment criteria for Math and/or English by the end of their Junior year must complete a capstone demonstrating proficiency.

Students who have not met the standardized assessment criteria by the end of their Junior year must enroll in the regular senior English class. During the Fall semester, students will complete a capstone that is aligned to the "Handbook: DCSD's Capstone Project" document. Students will present their work to be evaluated by a panel of administrators, teachers and stakeholders. Any student who is needing to make revisions must complete and re-submit their capstone before April of their graduating year.

Concurrent Enrollment Expectations

Concurrent Enrollment (CE) allows high school students (9th-12th grade) to enroll in college-level courses while still in high school. STEM School Highlands Ranch will pay the tuition portion of that college education. To qualify for the Concurrent Enrollment Program, students must:

- Be in 9th, 10th, 11th, or 12th grade
- Be a student of good standing in previous coursework and show a history of strong standardized test scores. This includes a GPA of 3.0 for the previous 2 semesters.
- Have a social maturity to excel in a college environment.
- Must follow the attendance policy at STEM School Highland Ranch.
- Receive a minimum score on the ACT, SAT, or Accuplacer as needed.
- Complete all portions of the CE application and submit the completed application to the Career Discovery Coordinator by the published deadlines.
- Meet with the Career Discovery Coordinator once each year to review eligibility for CE.
- Guaranteed transfer course recommended.
- Be enrolled in the College Opportunity Fund.

*Students who fail to meet these requirements, might not be eligible to enroll in Concurrent Enrollment courses paid for by STEM.
** If a student has an Individualized Education Plan or Section 504 plan, they are responsible for submitting that plan to the partner institution and working directly with that institution for accommodations.

Offsite Concurrent Enrollment Option
Students can take courses onsite or online at one of our partner colleges/universities. Please note if a CE course is offered at STEM, it may not be approved at the partner institution. You must review your offsite CE course selection with your high school counselor or the career discovery coordinator.

Students must be enrolled as a full time student at STEM School Highlands Ranch while taking courses offsite. Additionally they must maintain full time status while taking courses offsite. Students may enroll in 12-18 semester credit hours at one of our partner schools to achieve full-time status. If students are enrolled part-time* at a partner school, they may choose to take a combination of STEM and off-campus CE courses. Each student's schedule is unique and must be reviewed to ensure it meets STEM's course load requirements (defined above). *Part-time status is 3-11 semester credit hours.

Concurrent Enrollment Credit Equivalency
Students completing college-level concurrent enrollment college level courses with a grade of C or higher will be awarded credit equivalency as follows. * Students who earn a D will only receive 0.5 credits (1 semester) of high school credit regardless of the number of college credits.

CLASS OF 2026 - 2027

1 college credit	(0.5 credits) 1 semester of high school credit
2-3 college credits	(1.0 credit) 2 semesters of high school credit
4 college credits	(1.5 credits) 3 semesters of high school credit
5 college credits	(2 credits) 4 semesters of high school credit

CLASS OF 2028 AND BEYOND

1-3 college credits	(0.5 credits) 1 semester of high school credit
4-6 college credits	(1.0 credit) 2 semesters of high school credit

Concurrent Enrollment Credit Equivalency Continued

The following P-TECH courses receive one year high school credit with a grade of C or higher.

Robotics and Automation	Cybersecurity	Game Design	Aerospace
CE CAD 2455 CE CAD 2660 CE ELT 1206 CE ELT 2254 CE ELT 2252 CE ELT 2455 CE ELT 2367 CE ELT 2358	CE CSC 1019 CE CNG 1021 CE CNG 1022 CE CNG 1024 CE CNG 1025 CE CNG 1032 CE CIS 1018 CE CIS 2020 CE CIS 2040 CE CIS 2043	CE MGD 1011 CE MGD 1043 CE CSC 2027 CE CSC 1019 CE CSC 1061 CE CSC 2000 CE CSC 2017 CE CSC 1026	MSU AES 1010 MSU AES 1040

The Advanced Placement Program

The Advanced Placement Program® is a cooperative educational endeavor between secondary schools and colleges and universities. Since its inception in 1955, the Program has provided motivated high school students with the opportunity to take college-level courses in a high school setting. Students who participate in the Program not only gain college-level skills, but in many cases they also earn college credit while they are still in high school. AP courses are taught by dedicated and enthusiastic high school teachers who follow course guidelines developed and published by the College Board. (The College Board: AP Central, 2022).

There is a cost to the student for each exam taken. Students who wish to take multiple AP courses need to discuss the rigorous schedule demands with their counselor.

Things to be Aware of When Taking AP

- AP classes are college level classes. They are not high school honors classes
- STEM highly recommends that students DO NOT take more than 3 AP/ CE courses in a semester due to the level of rigor required for each course. Parents will be asked to sign off a consent letter for students taking more than 4 AP/CE courses in a semester.

Advantages of Taking AP Course Work

- AP courses show colleges that you are able to complete the most rigorous courses your high school offers.
- Collegiate institutions recognize that applicants with AP experience are better prepared for the demands of college courses.
- Most colleges and universities will offer college credit and/or advanced placement to students earning a high enough score on an AP exam.
- AP students may be eligible for honors and other special programs in college.

More information regarding the AP program can be obtained from any AP teacher, your counselor, and the AP website.

AP Student Profile

We recommend that students undertaking Advanced Placement ® course work:

- have a desire to undertake rigorous, in depth study of the course content;
- have a history of satisfactory performance within the content area;
- possess a strong work ethic and superior study skills;
- demonstrate strong language skills (students should be able to read and write at or above grade level);
- advocate and take responsibility for their own learning;
- understand that the pace of Advanced Placement® instruction requires daily attendance;
- meet the established prerequisites for specific courses;
- have sufficient time management skills to balance academics, and activities
- are mature, curious, and active learners who will contribute to classroom discussions and activities.
- Do not take more than 3 AP/CE courses in a semester

AP Scholar Awards

Each year, the College Board recognizes high school students who have demonstrated college-level achievement through multiple AP courses and exams. Some of the awards and their requirements are as follows:

- AP Scholar: students who receive scores of 3 or higher on three or more AP Exams
- AP Scholar with Honor: students who receive an average score of at least 3.25 on all AP Exams taken and scores of 3 or higher on four or more on these exams
- AP Scholar with Distinction: students who receive an average score of at least 3.5 on all AP Exams taken and scores of 3 or higher on five or more of these exams
- National AP Scholar: students in the U.S. who receive an average score of at least 4 on all AP exams taken and scores of 4 or higher on eight or more of these exams

AP CAPSTONE DIPLOMA: NEW 2025 - 2026

What is AP Diploma?
The AP Capstone Diploma is an advanced diploma offered by the College Board, designed to promote college readiness and critical thinking through two specific courses: AP Seminar and AP Research. Students earn the diploma by completing these courses and earning scores of 3 or higher on them, along with scores of 3 or higher on four additional AP exams of their choice.

Here's how it works:

1. AP Seminar: In this course, students explore real-world issues through multiple perspectives, research various topics, and develop arguments through written essays, presentations, and team projects.
2. AP Research: Following AP Seminar, this course allows students to design, execute, and defend a year-long research project on a topic of their choice, culminating in a research paper and an oral defense.
3. Additional AP Exams: Students must also pass four additional AP exams in any subject to qualify for the diploma.

What is AP Research & Seminar?

AP Seminar
AP Seminar is the first course in the AP Capstone program, aimed at developing students' skills in research, analysis, and presentation. In this course:

- Focus: Students explore complex real-world issues from multiple perspectives, such as political, scientific, and ethical angles.
- Skills Developed: Critical thinking, research, collaboration, argumentation, and communication.
- Assessment: Students complete team projects, individual research, presentations, and written essays. The final AP score is based on both in-class assessments and a written exam at the end of the year.
- Goal: The course encourages students to investigate a range of issues, evaluate sources, and build well-rounded arguments, preparing them for more in-depth research in AP Research.

AP Research
AP Research is the second course in the AP Capstone program, where students conduct a year-long research project on a topic of their choice.

- Focus: Students design, execute, and present an original research project.
- Skills Developed: Independent research, project management, critical analysis, data collection, and academic writing.
- Assessment: The AP score is based on a 4,000–5,000 word academic paper, a presentation, and an oral defense of their research.

Goal: AP Research allows students to dive deeply into a topic of personal interest, using research methods and academic protocols, which prepares them for college-level research work.

STEM Internship

- Employer must offer an internship for a specified time frame, in one of the Colorado Career Clusters:
  - Business, Marketing & Public Administration
  - Agriculture, Natural Resources & Energy
  - STEM, Arts, Design & Information Technology
  - Skilled Trades & Technical Sciences
  - Health Science, Criminal Justice & Public Safety
  - Hospitality, Human Services & Education
- Internships can be paid or unpaid at the discretion of the employer. The student must notify STEM administration beforehand if the employer does not cover the STEM intern with Worker's Compensation Insurance.
- Internships may be for both for profit or non-profit organizations. All other requirements, including Workers Compensation Insurance, must still be addressed.
- Students must submit the following documents before starting their internship:
  - *Student Internship Agreement* form
  - *Professional Internship Course Approval* form with attached *Skills Identification* form
  - Assumption of *Risk and Release - Off Campus* form DCSD Assumption of Risk .

High School Credit for Internship
Students may earn up to .5 elective credits per semester for participation in an approved STEM internship. This will be a pass/fail course. Internships must meet the following requirements:

- Students must have a complete Internship Course Approval Form and all required paperwork before beginning an internship.The paperwork can be submitted to the career discovery coordinator.
- Internship will be scheduled for a minimum of 60 hours per semester.
- Students are required to complete STEM's Internship Lesson Module
- Students who do not attend 85% or more of their scheduled hours will not pass the class. Attendance must be verified via Internship Attendance Verification Form which must be submitted to the counseling office the last week of the semester in which the internship occurs.
- Complete all necessary paperwork for the internship.
- Students must be on track for high school graduation.
- Students must submit a one-page internship reflection paper highlighting their experiences and lessons learned by the last week of the semester.

P-TECH
Pathways in Technology Early College High Schools (P-TECH) is an innovative partnership between a school district, a community college, and one or more local high growth industry employers. Students begin as early as ninth grade and continue for up to six years (i.e. high school and two equivalent years of college). Students graduate with both a high school diploma and an industry-recognized associate degree, in addition to gaining relevant workplace skills.

The P-TECH pathways that are offered at STEM are Robotics and Automation (formally Mechatronics), Cybersecurity and Game Design and Development. Robotics and Automation (Mechatronics) is a synergetic integration of mechanical, electrical, control, automation, robotics, computer systems for industry and computer engineering technologies. Cybersecurity prepares students to access the security needs of computer and network systems, recommend safeguard solutions, and manage the implementation and maintenance of security devices, systems, and procedures. Game Design and Development offers training in game programming and development, 2D and 3D modeling and animation, and allows students to pick an emphasis in multimedia or computer science.

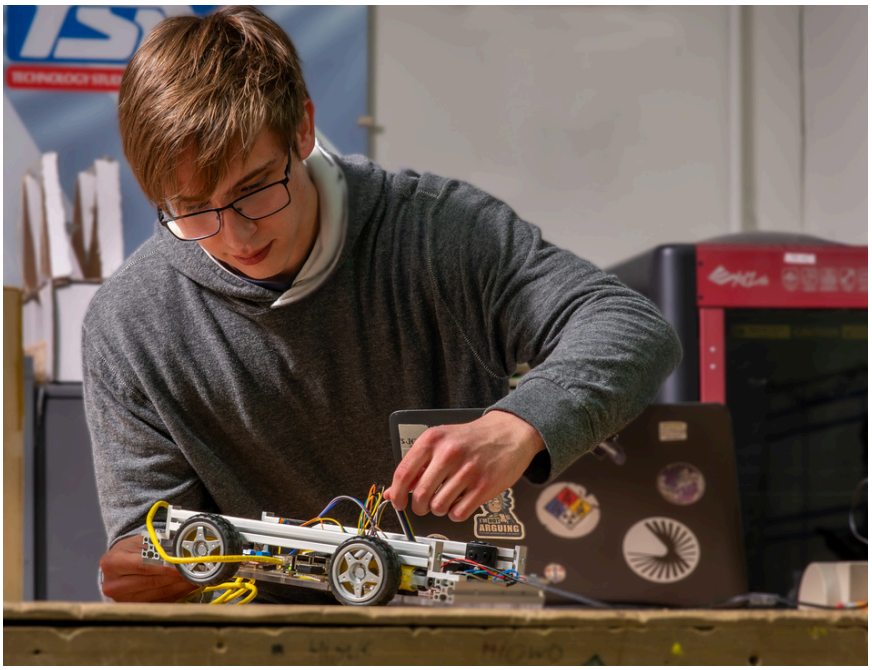
P-TECH Continued

STEM School Highlands Ranch will pay the tuition portion of that college education that is outlined in the P-TECH pathway. Families are responsible for books, fees, and additional costs associated with online classes, as well as courses that are not outlined in the P-TECH pathway.

To qualify for the P-TECH Program, students must:

1. Be in 9th, 10th, 11th, or 12th grade.
2. Be enrolled in P-TECH program by October of 11th grade.
3. Be a student of good standing in previous coursework and show a history of strong standardized test scores. This includes a GPA of 3.0 for the previous 2 semesters.
4. Have a social maturity to excel in a college environment.
5. Must follow the attendance policy at STEM School Highland Ranch.
6. Receive a minimum score on the ACT, SAT, or Accuplacer as needed.
7. Complete all portions of the P-TECH application and submit the completed application to the Career Discovery Coordinator by the published deadlines.
8. Be enrolled in available P-TECH courses.
9. Be enrolled in the College Opportunity Fund.

*Students who fail to meet these requirements, might not be eligible to enroll in Concurrent Enrollment courses paid for by STEM.



P-TECH (PATHWAYS TO TECHNOLOGY EARLY COLLEGE HIGH SCHOOL) PATHWAYS

Sample Course Progression: Cybersecurity Pathway

	Semester 1 CE	Semester 2 CE	HS Courses for Graduation
Year 1	CSC 1019	BUS 1021	• Math • English • Biology • US Government • PE/ Fine Arts • World Language
Year 2	CNG 1024 BUS 2017	CNG 1025 BUS 2026 CNG 1032	• Math • English • Chemistry • Social studies • PE/Fine Arts • World Language
Year 3	CIS 2020 CNG 2056	CNG 2057 CNG 2058	• Math • ENG 1021/ENG 1022 • Physics • US History • World Language
Year 4	CNG 1042 CNG2002 CSC 1060 CNG 2012	CIS 2087 CNG 2043 CNG 2059	• MAT 1340 • English

**This is a sample progression and can change depending on the CE and AP courses students choose to take. Please check with high school counselors when scheduling your P-TECH courses.

P-TECH (PATHWAYS TO TECHNOLOGY EARLY COLLEGE HIGH SCHOOL) PATHWAYS

Sample Course Progression: Robotics Automation

	Semester 1 CE	Semester 2 CE	HS Courses for Graduation
Year 1	CAD 2455	CAD 2660 EIC 1001	• Math • English • Biology • US Government • PE/ Fine Arts • World Language
Year 2	ELT 1206	OSH 1300 ELT 2252 BUS 1021	• Math • English • Chemistry • Social studies • PE/Fine Arts • World Language
Year 3	ELT 2358 ELT 2367	ELT 2455 ELT 2254 ELT 2368	• Math • English • Physics • US History • World Language
Year 4	PHI 1013 MTE 1220/PRO2800 IMA 1500	ELT 2080 ELT 2359 ELT 2348 PHY1105/PHY1111	• AP or CE Math • ENG 1021 and ENG 1022

**This is a sample progression and can change depending on the CE and AP courses students choose to take. Please check with high school counselors when scheduling your P-TECH courses.

P-TECH (PATHWAYS TO TECHNOLOGY EARLY COLLEGE HIGH SCHOOL) PATHWAYS

Sample Course Progression: Game Design and Development

	Semester 1 CE	Semester 2 CE	HS Courses for Graduation
Year 1	CSC 1019	CSC 1026 MGD 1011	• Math • English • Biology • US Government • PE/ Fine Arts • World Language
Year 2	BUS 2017	CSC 2000 MGD 1043	• Math • English • Chemistry • Social studies • PE/Fine Arts • World Language
Year 3	CSC 1060 MAR 2016	CSC 1061 CSC 2017 ART 1201	• MAT 1340 • MAT 1150 • English • Physics • US History • World Language
Year 4	MGD 1053 COM 1150 CSC 2027 MGD 2043	CSC 2046 CIS 2089	• AP or CE Math • ENG 1021 and ENG 1022

**This is a sample progression and can change depending on the CE and AP courses students choose to take. Please check with high school counselors when scheduling your P-TECH courses.

NEW METROPOLITAN STATE UNIVERSITY AEROSPACE TRANSFER DEGREE

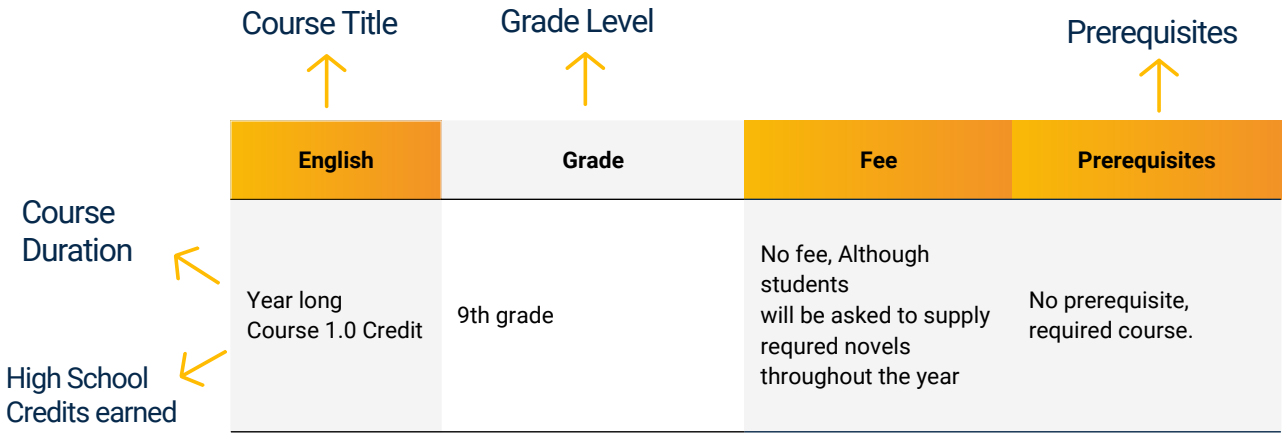
STEM School Highlands Ranch will be offering an Aerospace Transfer Degree in partnership with Metro State University. This partnership will provide students with Aerospace courses that lead to a transfer degree with Metro State University.

COURSES FOR 2025-2026 SCHOOL YEAR

MSU - CE AES 1010 - Intro to Aviation and Aerospace Operations	Semester long course worth 1 credit
MSU - AES 1040- Introduction to Unmanned Aircraft Systems	Semester long course worth 1 credit

COURSE DESCRIPTIONS BY DEPARTMENT

SAMPLE COURSE INTERPRETATION



RECOMMENDED COURSE PROGRESSION

ENGLISH / LANGUAGE ARTS

9TH GRADE

- **ENGLISH I**
- WORLD LITERATURE
- AP LANGUAGE AND COMPOSITION

10TH GRADE

- **WORLD LITERATURE**
- CE ENG 1021 ENGLISH COMP I
- CE ENG 1022 ENGLISH COMP II
- CE ENG 1020 TECHNICAL WRITING I*
- AP LANGUAGE & COMPOSITION

11TH GRADE

- **AMERICAN LITERATURE**
- CE ENG 1021 ENGLISH COMP I
- CE ENG 1022 ENGLISH COMP II
- CE ENG 1020 TECHNICAL WRITING I
- CE LIT 1015 INTRO TO LITERATURE
- CE LIT 2002 WORLD LITERATURE
- AP LANGUAGE & COMPOSITION
- AP LITERATURE & COMPOSITION

12TH GRADE

- **BRITISH LITERATURE**
- CE ENG 1021 ENGLISH COMP I
- CE ENG 1022 ENGLISH COMP II
- CE ENG 1020 TECHNICAL WRITING I
- CE LIT 1015 INTRO TO LITERATURE
- CE LIT 2002 WORLD LITERATURE
- AP LANGUAGE & COMPOSITION
- AP LITERATURE & COMPOSITION

NOTES on ENGLISH COURSES

- 4 credit hours are required for graduation.
- 4 years of English are recommended for College admission.
- Standard course progression is in **BOLD.**
- Please see the course descriptions below for credit information.

LANGUAGE ARTS

ENGLISH 1			STEMHS019
Year long course 1.0 credit	9th grade	No fees, although students will be asked to supply required novels throughout the year.	

This course will help to refine and strengthen students' reading, writing, and communication skills. Emphasis is on communication through composition of well-structured paragraphs, short stories, essays, and presentations. Literature will be studied through the genres: novels, graphic novels, short stories, nonfiction, and poetry. Vocabulary, grammar, and standard English conventions are taught alongside reading and literature as well as through the continuation of grammar practice.

WORLD LITERATURE			STEMHS0110
Year long course 1.0 credit	9th - 10th grade	No fees, although students will be asked to supply required novels throughout the year.	**English 1 or equivalent**

In this course we will study works classified as World Literature in order to broaden students' literary landscape. Texts will range from the Ancient World to 21st Century fiction and nonfiction, and highlight themes of global awareness and power. These texts will be placed in their social and historical context, giving us a more complete understanding of the circumstances and culture in which they were written.

AMERICAN LITERATURE			STEMHS0111
Year long course 1.0 credit	11th grade	No fees, although students will be asked to supply required novels throughout the year.	**English 1 or equivalent**

In this course we will study works classified as American Literature in order to broaden students' understanding of what American really means. Texts will range from Native American to 21st Century fiction and nonfiction, and highlight themes of non-conformity and "the American Dream." These texts will be placed in their social and historical context, giving us a more complete understanding of the circumstances and culture in which they were written.

BRITISH LITERATURE			STEMHS0112
Year long course 1.0 credit	12th grade	No fees, although students will be asked to supply required novels throughout the year.	**English 1 or equivalent**

In this course we will study works classified as British Literature in order to broaden students' scope of literature written in English. Texts will range from the middle English of Chaucer to 21st century fiction and nonfiction, and highlight themes of escapism. These texts will be placed in their social and historical context, giving us a more complete understanding of the circumstances and culture in which they were written. * Satisfies English Capstone requirement.

AP LANGUAGE AND COMPOSITION			STEMHS0120
Year long course 1.0 credit	9th -12th grade	$95 Exam fee. Students will be asked to supply novels throughout the year	**2 years of high school level English is recommended**

This accelerated, year-long course prepares students for the AP Language and Composition exam through reading and analysis of non-fiction essays and classic literature, in addition to strengthening critical thinking and writing skills. Because students who pass the AP exam may earn college credit, the degree of difficulty is high. Primary to this class is the understanding of rhetoric, both the writing and analysis of it. Qualities of an AP student include one with a mature perspective (global and historical), a persuasive and analytical voice, a flow of writing and organizational structure, and correctness in grammar. Students will learn to write persuasively, using appropriate rhetorical strategies. They will also learn to analyze such things as diction, syntax, and figures of speech as part of the deconstruction of language, and will understand rhetorical strategies in the context of public discourse. They will be expected to complete summer reading in preparation for the course. Students are expected to take the AP exam in May.

AP LITERATURE AND COMPOSITION			STEMHS0121
Year long course 1.0 credit	11th - 12th grade	$95 Exam fee, Students will be asked to supply required novels throughout the year.	**English 1 or equivalent**

An AP English Literature and Composition course engages students in the careful reading and critical analysis of imaginative literature . Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers . As they read, students consider a workstyle, structure, style and themes, as well as such smaller-scale elements as the use of figurative language, imagery, symbolism and tone. They will be expected to complete summer reading in preparation for the course. Students are expected to take the AP exam in May.

CE ENG 1021 ENGLISH COMPOSITION I			STEMHS0116
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade	No fee, although students will be asked to supply required novels throughout the year.	ACC Placement scores for English, or High School GPA 3.0 or higher **Student must enroll at ACC and fill out CE College agreement.**
Emphasizes the planning, writing, and revising of compositions, including the development of critical and logical thinking skills. This course includes a minimum of five compositions that stress analytical, evaluative, and persuasive/argumentative writing. This is a statewide Guaranteed Transfer course in the GT-CO1 category.			

CE ENG 1022 ENGLISH COMPOSITION II			STEMHS0117
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade	No fees, although students will be asked to supply required novels throughout the year.	ACC Placement scores for English, or High School GPA 3.0 or higher **Student must enroll at ACC and fill out CE College agreement.**
Expands and refines the objectives of English Composition I. Emphasizes critical/logical thinking and reading, problem definition, research strategies, and writing analytical, evaluative, and/or persuasive/argumentative compositions. This is a statewide Guaranteed Transfer course in the GT-CO2 category.			

CE ENG 1031 TECHNICAL WRITING I			STEMHS0130
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade	No fees, although students will be asked to supply required novels throughout the year.	ACC Placement scores for English, or High School GPA 3.0 or higher **Student must enroll at ACC and fill out CE College agreement**
Students enrolled in this class will develop skills one can apply to a variety of technical documents. The class focuses on principles for organizing, writing, and revising clear, readable documents for industry, business, and government. This is a statewide Guaranteed Transfer course in the GT-CO1 category.			

CE LIT 1015 INTRO TO LITERATURE			STEMHS0118
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	11th - 12th grade	No fee, although students will be asked to supply required novels throughout the year.	ACC Placement scores for English, or High School GPA 3.0 or higher **Student must enroll at ACC and fill out CE College agreement.**

Introduces fiction, poetry, and drama. This course emphasizes active and responsive reading. This is a statewide Guaranteed Transfer course in the GT-AH2 category. Students must be enrolled in the CE course, and the class will also prepare students to take the AP Literature and Composition exam in the Spring. A Concurrent Enrollment Literature and Composition course engages students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students consider a work's structure, style and themes, as well as such smaller-scale elements as the use of figurative language, imagery, symbolism and tone.

CE LIT 2002 WORLD LITERATURE AFTER 1600			STEMHS0119
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	11th - 12th grade	No fees, although students will be asked to supply required novels throughout the year.	ACC Placement scores for English, or High School GPA 3.0 or higher **Student must enroll at ACC and fill out CE College agreement**

This course will examine significant writings in world literature from the seventeenth century to the present. It will emphasize careful and critical reading and understanding of the works and their cultural backgrounds.
Examines significant writings in world literature from the ancients to the seventeenth century. It emphasizes active reading and understanding of the works and their cultural backgrounds.~~This is a statewide Guaranteed Transfer course in the GT-AH2 category.

RECOMMENDED COURSE PROGRESSION

MATHEMATICS

9TH GRADE

- **ALGEBRA I**

10TH GRADE

- **GEOMETRY**

11TH GRADE

- **ALGEBRA II**
- CE MAT 1340- COLLEGE ALGEBRA
- TRIGONOMETRY/PRE-CALCULUS
- AP PRE CALCULUS

12TH GRADE

- TRIGONOMETRY/ PRE-CALCULUS
- AP PRE CALCULUS
- AP STATISTICS
- FINANCIAL LITERACY

NOTES ON MATH COURSES

- 4 credit hours are required for graduation.
- Algebra II is **required for graduation.**
- Standard course progression is in BOLD.
- Freshman will begin with the appropriate math class based on previous math and eligibility.

MATHEMATICS

ALGEBRA I			STEMHS029
Year long course 1.0 credit	9th grade	None	**Pre Algebra**
This course introduces students to solving problems by using variables to represent unknown quantities and then solving for those unknown quantities by writing equations and inequalities. Course topics include a review of the order of operations with integers, solving equations, inequalities and absolute values equations. Students will work extensively on solving and graphing linear system/inequalities and quadratic equations . Additional topics will include rules of exponents, simplifying and factoring quadratics, operations with polynomials , radicals, and the quadratic formula. Students who successfully complete this course with an 85% or higher will be prepared to move on to Geometry.			

GEOMETRY			STEMHS0210
Year long course 1.0 credit	9th - 10th grade	None	**Algebra I**
This high school graduation requirement course serves as the second in the series of advanced mathematical courses by providing a complete foundation of geometrical concepts. Students will represent problem situations with geometric models, classify figures in terms of congruence and similarity, and deduce properties of and relationships between figures from given assumptions. Students will also be able to prove geometrical properties and relationships.			

ALGEBRA II			STEMHS0211
Year long course 1.0 credit	9th - 12th grade	None	**Geometry (with a C or better for students in grades 6-8)**
This course will expand students' knowledge of functions to include exponential, logarithmic and polynomial functions by examining real-world problems. Students will gain an understanding of the characteristics and transformation of functions.			

TRIGONOMETRY/PRE-CALCULUS			STEMHS0212
Year long course 1.0 credit	9th - 12th grade	None	**Algebra II and Geometry**
This problem-based course integrates the study of trigonometry, analytic geometry, advanced algebraic topics, and elementary statistics into a logical approach to the solution of real-world problems. All students considering a career in a mathematical, scientific or technological related field should enroll in this course.			

STATISTICS			STEMHS0215
Year long course 1.0 credit	9th - 12th grade	None	**Geometry**

Probability and Statistics courses introduce the study of likely events and the analysis, interpretation, and presentation of quantitative data. Course topics generally include basic probability and statistics: discrete probability theory, odds and probabilities, probability trees, populations and samples, frequency tables, measures of central tendency, and presentation of data (including graphs). Course topics may also include normal distribution and measures of variability.

AP PRE CALCULUS			STEMHS0229
Year long course 1.0 credit	9th - 12th grade	$95.00 AP exam $35 for web assignments	**Algebra II and Geometry**

In AP Precalculus, students explore everyday situations and phenomena using mathematical tools and lenses. Through regular practice, students build deep mastery of modeling and functions, and they examine scenarios through multiple representations. They will learn how to observe, explore, and build mathematical meaning from dynamic systems, an important practice for thriving in an ever-changing world. AP Precalculus prepares students for other college-level mathematics and science courses. The framework delineates content and skills common to college precalculus courses that are foundational for careers in mathematics, physics, biology, health science, social science, and data science.

CE MAT 1340- COLLEGE ALGEBRA			STEMHS0222
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade	None	Must have completed Algebra II with a C or higher. **Student must enroll at ACC and fill out the CE College Agreement**

Includes a brief review of intermediate algebra, equations, and inequalities, functions and their graphs, exponential and logarithmic functions, linear and nonlinear systems, selection of topics from among graphing of the conic sections, introduction to sequences and series permutations and combinations, the binomial theorem and theory of equations.

CE MAT 1240- MATH FOR LIBERAL ARTS			STEMHS0231
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade	None	Must have completed Algebra II with a C or higher. **Student must enroll at ACC and fill out the CE College Agreement**

Covers material designed for career and technical students who need to study particular mathematical topics. Topics include measurement, algebra, geometry, statistics, and graphs. These are presented at an introductory level and the emphasis is on applications.

AP CALCULUS AB			STEMHS0216
Year long course 1.0 credit	10th - 12th grade	$95.00 AP exam $35 for web assignments	**Pre Calculus** (recommended C or higher)
Topics covered include limits, differentiation, integration, and problem solving involving calculus concepts. This course is the equivalent to the first semester college calculus course and leads to the national AP exam in May.			

AP CALCULUS BC			STEMHS0217
Year long course 1.0 credit	10th -12th grade	$95.00 AP exam $35 for web assignments	Trigonometry required. AP Calculus AB recommended. Teacher recommendation needed
Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus BC courses provide students with an understanding of the concepts of calculus and experience with its methods and applications. These courses cover all of the calculus topics in AP Calculus AB as well as the following topics: parametric, polar, and vector functions; applications of integrals; and polynomial approximations and series, including series of constants and Taylor series.			

AP STATISTICS			STEMHS0218
Year long course 1.0 credit	10th - 12th grade	$95.00 AP exam $35 for web assignments	Algebra II, earning a C or higher.

The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes:

- Exploring Data: Describing patterns and departures from patterns
- Sampling and Experimentation: Planning and conducting a study
- Anticipating Patterns: Exploring random phenomena using probability and simulation
- Statistical Inference: Estimating population parameters and testing hypotheses

Students who successfully complete this course will be prepared for the AP Statistics test and may be awarded up to one semester of college credit with a successful score. All students enrolled are expected to take the AP exam in May.

FINANCIAL LITERACY			STEMHS0214
Year long course 1.0 credit	10th - 12th grade	None	None

The Financial Literacy course introduces more than a dozen topics spanning personal finance to global economics. Students first learn practical money management skills like budgeting, credit card responsibility, and college loans. Then students explore career planning topics like salaries, retirement/401(k) plans, employer-provided health care, and personal tax preparation. An overview of micro/macro-economics and accounting is covered, as well as a thorough study of financial markets and investment vehicles. Finally, the course explores conceptual financial topics like behavioral economics, game theory, and deceptive marketing tactics.

* This course satisfies the capstone requirement for math.

RECOMMENDED COURSE PROGRESSION

SCIENCE

9TH GRADE

- **BIOLOGY**
- AP BIOLOGY

10TH GRADE

- **CHEMISTRY**
- AP CHEMISTRY
- CE BIO 2120- ZOOLOGY

11TH GRADE

- **PHYSICS**
- AP PHYSICS I
- AP PHYSICS II

12TH GRADE

- AP PHYSICS II
- AP PHYSICS C
- AP CHEMISTRY
- HUMAN ANATOMY & PHYSIOLOGY
- AP ENVIRONMENTAL SCIENCE

NOTES ON SCIENCE COURSES

- 3 credit hours are required for graduation.
- Standard course progression is in BOLD.

SCIENCE

BIOLOGY			STEMHS039
Year long course 1.0 credit	9th grade	None	

Topics include the philosophy of science, scientific method, chemical organization of life, cell biology, cellular metabolism, genetics, molecular genetics, molecular biology, evolution, and biodiversity of the Bacteria, Archaea, protists, and Fungi. Also includes an introduction to higher levels of biological organization from the organism to the ecosystem. Topics include diversity of the plants and animals, organism structure and physiology, behavior, population ecology, community ecology, ecosystem ecology, and environmental biology.
This is a lab-based course.

CHEMISTRY			STEMHS0310
Year long course 1.0 credit	10th - 12th grade	None	**Algebra I**

This Chemistry course uses real-world applications that help students connect abstract chemical concepts to their own lives. This course utilizes engaging inquiry skills that allow students to really think like scientists. Chemistry strikes a balance between theory and application by incorporating real examples and helping students visualize the three-dimensional atomic and molecular structures that are the basis of chemical activity. Laboratory work in this course focuses on data analysis of chemical concepts and principles covering a broad range of topics. An integral part of this course is to develop students' problem solving and critical thinking skills.
This is a lab-based course.

PHYSICS			STEMHS0311
Year long course 1.0 credit	10th - 12th grade	None	**1 year of lab based science and Geometry strongly recommended**

The Physics course at STEM utilizes real world problem solving, mathematical analysis, and hands-on experimentation to teach students how to establish patterns in the natural world. Physics will cover 2-dimensional motion, forces, momentum, energy, waves, electricity, and other phenomena that can be broken down mathematically. The rigor of this course will also prepare students for AP Physics if they choose to continue and requires a strong foundation in algebra. Algebra 1 credit required, Algebra II preferred.
This is a lab-based course.

ZOOLOGY			STEMHS0316
Year long course 1.0 credit	10th - 12th grade	9th graders may take if Biology was completed in 8th grade	**Biology is strongly recommended**
Introduces the student to the study of animals from the cellular level to the interactions of the organism within its environment, and their ecological contributions. This course includes principles of evolution, animal ecology, animal architecture, taxonomy, and phylogeny. It also includes the study of animal diversity, emphasizing the characteristics and classifications of animal phyla and major classes. This is a lab-based course.			

HUMAN ANATOMY & PHYSIOLOGY			STEMHS0312
Year long course 1.0 credit	10th - 12th grade	9th graders may take if Biology was completed in 8th grade	**Biology is strongly recommended**
Human Anatomy and Physiology covers the structure and function of the human body. Included is an organization of the human body, basic chemistry, and a study of cells, tissues, metabolism, human body systems, and the senses. Dissection, histological studies, and physiological simulations are featured in the laboratory experience. This is a lab-based course.			

INTRO TO MARINE BIOLOGY			STEMHS0302
Semester long course 0.5 credits	10th - 12th grade	9th graders may take if Biology was completed in 8th grade	**Biology is strongly recommended**
Explore the ocean by investigating the biodiversity of life that fills this vast space and the remarkable ecosystems in which they live. Study ocean history and changes across time, which have affected life in the sea and its physical attributes. The ocean and life within it interact and depend upon each other in amazing ways—study these intricate webs. As part of the Earth ecosystem, how do we, as humans, impact life in the ocean and what can we do, as scientists and citizens, to respect, appreciate, and care for our precious ocean. This is a lab-based course.			

EARTH AND SPACE SCIENCE			STEMHS0325
Year long course 1.0 credit	9th - 12th grade		

Earth and Space science is a class designed to introduce students to the field of geology, meteorology, and astronomy within the context of planetary sciences and connections to impacts on humans and society. Students will use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding the universe and Earth's place in it. Students will learn and apply the methodologies of NASA planetary scientists to understand the diversity of objects in and outside of our solar system, and use those observations to deepen their understanding of the Earth's geology, history, weather and climate patterns. This is a lab-based course.

CE BIO 1003- GENERAL ZOOLOGY			SSTEMHS0320
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade open to 9th graders who completed Biology with a C or higher		ACC Placement scores for English & Math. **Student must enroll at ACC and fill out the CE College Agreement**

Introduces the student to the study of animals from the cellular level to the interactions of the organism within its environment, and their ecological contributions. This course includes principles of evolution, animal ecology, animal architecture, taxonomy, and phylogeny. It also includes the study of animal diversity, emphasizing the characteristics and classifications of animal phyla and major classes. This is a lab-based course.

CE BIO 1111- GENERAL BIOLOGY WITH LAB			STEMHS0323
Semester long course 1.0 credit for 11th - 12th graders 0.5 credit for 9th - 10th grade	10th - 12th grade open to 9th graders who completed Biology with a C or higher	This course takes 2 class periods. • 1 class period is the instruction • 1 class period is the lab	ACC Placement scores for English & Math, or High School GPA of 3.0 or higher. **Student must enroll at ACC and fill out the CE College Agreement**

Examines the fundamental molecular, cellular and genetic principles characterizing plants and animals. Includes cell structure and function and the metabolic processes of respiration and photosynthesis, as well as cell reproduction and basic concepts of heredity. This course includes laboratory experience.

AP BIOLOGY			STEMHS0317
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	**Biology and Chemistry are strongly recommended.**

The AP Biology course is designed to enable you to develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data, applying mathematical routines, and connecting concepts in and across domains. The result will be readiness for the study of advanced topics in subsequent college courses—a goal of every AP course. This AP Biology course is equivalent to a two-semester college introductory biology course and has been endorsed enthusiastically by higher education officials. All students are expected to take the AP exam in May.
This is a lab-based course.

AP CHEMISTRY			STEMHS0318
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	Geometry and Algebra 2 taken concurrently or prior.

This course is designed to be the equivalent of the general chemistry course usually taken during the first college year. Students should attain a depth of understanding of fundamentals and a reasonable competence in dealing with chemical problems. This course in general chemistry is accelerated in the topics covered. The emphasis of this class is on chemical calculations and the mathematical formulation of principles, and laboratory experience equivalent to that of a typical college course. All students are expected to take the AP exam in May.
This is a lab-based course.

AP PHYSICS I			STEMHS0320
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	Geometry and Algebra 2 taken concurrently or prior.

AP Physics 1 is designed by the College Board to parallel first-semester college-level courses in algebra based physics. This course covers classical mechanics including kinematics, dynamics, gravitation, energy, momentum, oscillations, and rotation. AP Physics 1 will also include rigorous college-level laboratory investigations and mathematical analysis. All students are expected to take the AP exam in May.
This is a lab-based course.

AP PHYSICS II			STEMHS0321
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	**Required to take Calculus concurrently or prior and also have taken AP Physics I or gained instructor approval.**

AP Physics 2 is designed by the College Board to parallel second-semester college-level courses in algebra-based physics. AP Physics 2 courses cover fluids, thermodynamics, electrostatics, electrical circuits, magnetism, electromagnetism, optics, and some modern physics. This class includes college level laboratory investigations, mathematical analysis, and scientific communication. Students are expected to have taken AP Physics 1 or an equivalent preparatory course and be concurrently enrolled in pre-calculus or above. All students are expected to take the AP exam in May.
This is a lab based course.

AP PHYSICS C			STEMHS0319
Year long course 1.0 credit	10th -12th grade	$95 for AP Exam	**Required to take Calculus concurrently or prior and also have taken AP Physics I or gained instructor approval.**

This course is designed to be the equivalent of a general, calculus based physics course usually taken during the first college year in preparation for a science or engineering degree. This course will focus heavily on the mathematical manipulation of variables necessary to deepen a student's current understanding of physics. Semester 1 will be mechanics based, with emphasis on the following: Kinematics, Dynamics, Energy, Systems of Particles, Momentum, Circular Motion/Oscillations, Rotation, and Gravity/Orbits. Semester 2 will be based on Electricity and Magnetism, with emphasis on the following: Electrostatics,Conductors/Capacitors/Dielectrics, Electric Circuits, Magnetic Fields, and Electromagnetism. Students will be required to identify, design and implement lab based research where they analyze and communicate their data driven results. Consequently, the course will utilize guided inquiry and student-centered learning to foster the development of critical thinking skills. All students are expected to take the AP exam in May. This is a lab-based course.

AP ENVIRONMENTAL SCIENCE			STEMHS0322
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	

Earth Science is a laboratory science course that explores origins and the connections between the physical, chemical, and biological processes of the earth system. Students experience the content of Earth Science through inquiry-based laboratory investigations and focus on topics associated with energy, weather and climate, geochemical processes, and the expanded time scales needed to understand events in the earth system. Earth Science provides the knowledge, skills, and habits of mind needed for problem solving and ethical decision-making about scientific and technological issues. All students are expected to take the AP exam in May. This is a lab-based course.

RECOMMENDED COURSE PROGRESSION

SOCIAL STUDIES

9TH GRADE

- **GEOGRAPHY**
- **US GOVERNMENT**
- AP HUMAN GEOGRAPHY
- AP WORLD HISTORY: MODERN

10TH GRADE

- **WORLD HISTORY**
- AP WORLD HISTORY: MODERN
- AP HUMAN GEOGRAPHY
- AP GOVERNMENT AND POLITICS
- AP EUROPEAN HISTORY

11TH GRADE

- **US HISTORY**
- AP US HISTORY
- AP WORLD HISTORY: MODERN
- AP HUMAN GEOGRAPHY
- AP EUROPEAN HISTORY

12TH GRADE

- PSYCHOLOGY
- ECONOMICS
- AP MICROECONOMICS
- AP EUROPEAN HISTORY
- AP PSYCHOLOGY
- AP MACROECONOMICS
- AP MICROECONOMICS

NOTES ON SOCIAL STUDIES COURSES

- 3.5 credit hours are required for graduation.
- Standard course progression is in BOLD.
- Students must take US government to meet graduation requirements.
- Students must also take World History, U.S. History, AP World History, or AP European History to meet graduation requirements.
- US History is strongly recommended for out of state college acceptance.

SOCIAL STUDIES

GEOGRAPHY			STEMHS0412
Semester long course 0.5 credit	9th - 11th grade	None	

Geography includes the study of different peoples as well as the physical characteristics of the earth, including landforms, climates, ecosystems and their interrelationships. Using the tools of geographers, students first learn to apply the Five Themes of Geography: Location, Place, Human-Environment Interaction, Movement, and Region. The course then concentrates on the political, economic, and social processes that shape cultural patterns of the following world regions: The United States, Latin America, Europe, Asia, Africa, Australia, and Antarctica. Using geographic information systems and a variety of other media, students compile, analyze, and present geographic data pertaining to the regions. Finally, students learn about types and patterns of settlement; the distribution and movement of world populations; relationships among people, places, and environments and how location affects economic systems. Cross-curricular integration projects with Science, Technology, Engineering, Math and Language Arts are emphasized.

US GOVERNMENT			STEMHS049
Semester long course 0.5 credit	9th - 11th grade	None	

The Civics and U.S. Government course prepares students for informed and responsible participation as citizens of our constitutional democracy. Students deepen their understanding of the democratic values expressed in the Declaration of Independence, the Constitution, and other foundational documents of the United States. They learn the purposes and structures of government as well as the principles of federalism, with a focus on how the executive, legislative and judicial branches operate at the federal, state and local levels. They also learn how citizens exert influence on public affairs and decisions. As a result of this course, students are prepared to exercise the rights and responsibilities of American citizenship. Cross-curricular integration projects with Science, Technology, Engineering, Math and Language Arts are emphasized.

WORLD HISTORY			STEMHS0410
Year long course 1.0 credit	10th - 12th grade		

This HS course is a study of world history anchored by a unit on world religions. Students will study the beliefs, history, and modern issues affecting faiths from both Eastern & Western traditions. Students study the key concepts of continuity and change, cause and effect, complexity, unity and diversity, and significant ideas through multiple perspectives, within and among cultures and societies. Using primary and secondary sources, they will utilize critical thinking, analytical and problem-solving skills as they conduct inquiry-based research, participate in interactive discussions, and complete assignments establishing real-world connections. Cross-curricular integration projects with Science, Technology, Engineering, Math and Language Arts are emphasized.
* Satisfies Colorado Department of Education Holocaust requirement

US HISTORY			STEMHS0411
Year long course 1.0 credit	10th - 12th grade		

The study of 11th grade United States History starts in chronological sequence with the causes and events leading up to the Civil War through modern times. The class will emphasize the strands of constitutional development, government, minorities, economics, culture, foreign affairs, and war and peace. The focus of this course provides students with a framework for studying political, social, economic, and cultural issues, and for analyzing the impact these issues have had on American society. This course goes beyond memorization of isolated facts to the development of higher level thinking skills, encouraging students to make historical assessments and evaluations.
* Satisfies Colorado Department of Education Holocaust requirement

AP HUMAN GEOGRAPHY			STEMHS0420
Year long course 1.0 credit	9th - 12th grade	$95 for AP Exam	

Following the College Board's suggested curriculum designed to parallel college-level Human Geography courses, AP Human Geography introduces students to the systematic study of patterns and processes that have shaped the ways in which humans understand, use, and alter the earth's surface. Students use spatial concepts and landscape analysis to examine human social organization and its environmental consequences and also learn about the methods and tools geographers use in their science and practice.

AP GOVERNMENT AND POLITICS			STEMHS0421
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	

Following the College Board's suggested curriculum designed to parallel college-level U.S. Government and Politics courses, these courses provide students with an analytical perspective on government and politics in the United States, involving both the study of general concepts used to interpret U.S. politics and the analysis of specific case studies. The courses generally cover the constitutional underpinnings of the U.S. government, political beliefs and behaviors, political parties and interest groups, the institutions and policy processes of national government, and civil rights and liberties.

AP US HISTORY			STEMHS0424
Year long course 1.0 credit	11th - 12th grade	$95 for AP Exam	

The class will prepare students to take the AP exam in the Spring. The AP U. S. History course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in U .S. history. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials—their relevance to a given interpretive problem, reliability, and importance—and to weigh the evidence and interpretations presented in historical scholarship. An AP U .S. History course should thus develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in essay format. Students who take this course will have the opportunity to earn high school credit and sit for the College Board AP World History exam in the spring.

AP WORLD HISTORY: MODERN			STEMHS0423
Year long course 1.0 credit	9th - 12th grade	$95 for AP Exam	

In AP World History: Modern, students investigate significant events, individuals, developments, and processes from 1200 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change over time. The course provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. All students are expected to take the AP exam in May. * Satisfies Colorado Department of Education Holocaust requirement.

AP EUROPEAN HISTORY			STEMHS0430
Year long course 1.0 credit	10th - 12th grade	$95 for AP Exam	

AP European History follows events from 1450 to Present by analyzing turning points, wars, innovations, revolutions, and social movements of the kingdoms and republics of the European continent. Starting with the Renaissance, students will understand social, political, and economic implications of major points of the Enlightenment, Scientific & Industrial Revolutions, and the creation of the modern world resulting from the two 20th Century World Wars. After learning to properly examine documents, students will attempt the AP Test at the end of the year for college credit.
*Satisfies Colorado Department of Education Holocaust requirement

ECONOMICS			STEMHS0413
Semester long course 0.5 credit	9th - 12th grade		

Why do 24-hour convenience stores have locks on their doors? Why do shirts for men button from the left, while shirts for women button from the right? Economics supplies the answers to these questions. Economics is the study of resources, efficiency, and how people choose to use their time and money. The field includes examinations of microeconomics - personal choices concerning resources - as well as macroeconomics - how entire economies grow or shrink based on the ideas of supply and demand. We will consider questions that economists ask, such as how and why prices change, what competition does to businesses, and how the stock market works. The focus of this class will be on how we can use economic principles to solve everyday problems, and how we can become more intelligent decision makers.

AP MICROECONOMICS & AP MACROECONOMICS			STEMHS0427 & STEMHS0428
Year long course 1.0 credit • AP Microeconomics is 1 semester • AP Macroeconomics is 1 semester	9th - 12th grade	$95 for AP Exam	

Following the College Board's suggested curriculum designed to parallel college-level Microeconomics courses, AP Microeconomics courses introduces students to the principles of economics that apply to the behavior of individuals within an economic system. You will use graphs, charts , and data to analyze, describe, and explain economic concepts. Topics such as supply and demand, production, costs, competition, factor markets and market failure will be explored. AP Macroeconomics introduces students to the principles of economics that apply to an economic system as a whole. You will use graphs, charts, and data to analyze, describe, and explain economic concepts. Topics such as economic indicators and the business cycle, national income, price determination, the financial sector, policy and economic growth, and international trade will be explored.

PSYCHOLOGY			STEMHS0422
Semester long course 0.5 credit	9th - 12th grade		

Psychology courses introduce students to the study of human cognition and behavior. Course content typically includes an overview of the field of psychology, covering topics about the biological bases of behavior, motivation & emotion, human growth and development, learning, personality and abnormal psychology.

HS SPORTS PSYCHOLOGY			STEMHS0431
Semester long course 0.5 credit	9th - 12th grade		

This course will concentrate on cognitive and behavioral skills training for performance enhancement, counseling and clinical intervention issues with athletes and team building concepts. Students will explore topics such as: goal setting; visualization, imagery and performance; development of self-confidence, self-esteem, advocacy and competence in sports; sportsmanship and leadership skills including moral and character development, eating disorders, nutrition, substance abuse, ergogenic aids, depression, overtraining, aggression in sports, injury, rehabilitation and team building; team processes and concepts. Sports Psychology proficiencies have been recognized and developed by the Division 47 Committee of the American Psychological Association.

AP PSYCHOLOGY			STEMHS0429
Year long course 1.0 credit	9th - 12th grade	$95 for AP Exam	

Following the College Board's suggested curriculum designed to parallel college-level Psychology, the AP Psychology course is to introduce students to the history, ideas, theories and methods of the scientific study of the behavior and mental processes of humans and animals via reading, discussion and analyzing scientific data.

WORLD LANGUAGE

FRENCH I			STEMHS069F
Year long course	9th - 11th grade	None	

French 1 develops the basic concepts in French Language and culture including French pronunciation, grammar, and vocabulary. Students will learn to develop their use of French in all three modes of communication: Interpersonal, Interpretive and Presentational as defined in the Standards for World Languages. The importance of communication and cultural awareness is stressed through a wide variety of activities (group/pair work/video, audio recordings, computer assignments). At the completion of this course, students are expected to be able to:

- Communicate in French orally and in writing to describe themselves and others, daily routine, family and close environment in the present tense.
- Comprehend both written and spoken language about themselves, and others, daily routine, family and close environment in the present tense.
- Demonstrate a basic understanding of French spelling, pronunciation, and grammar.
- Express knowledge of the Francophone world including geography, history and daily life
- Connect French studies with other content areas studied at STEM School Highlands Ranch and found in the world around them.
- Illustrate similarities and differences between the French and American cultures.

FRENCH II			STEMHS0610F
Year long course	9th - 11th grade	None	**French I**

French 2 continues to develop the basic concepts in French Language and culture including French pronunciation, grammar, and vocabulary. Students will continue to learn to develop their use of French in all three modes of communication: Interpersonal, Interpretive and Presentational as defined in the Standards for World Languages. The importance of communication and cultural awareness is stressed through a wide variety of activities (group/pair work/video, audio recordings, computer assignments). At the completion of this course, students are expected to be able to:

- Communicate in French orally and in writing to describe themselves and others, daily routine, family, close environment, celebrations, vacations, homes, food, and health in the present and past tenses.
- Comprehend both written and spoken language about themselves, and others, daily routine, family, close environment, celebrations, vacations, homes, food, and health in the present and past tenses.
- Demonstrate a basic understanding of French spelling, pronunciation, and grammar. Express knowledge of the Francophone world including geography, history and daily life Connect French studies with other content areas studied at STEM School Highlands Ranch and found in the world around them.
- Illustrate similarities and differences between the French and American cultures

FRENCH III			STEMHS0611F
Year long course	10th - 12th grade	None	**French II**

French 3 continues to develop the basic concepts in French Language and culture including French pronunciation, grammar, and vocabulary. Students will continue to learn to develop their use of French in all three modes of communication: Interpersonal, Interpretive and Presentational as defined in the Standards for World Languages. The importance of communication and cultural awareness is stressed through a wide variety of activities (group/pair work/video, audio recordings, computer assignments). At the completion of this course, students are expected to be able to:

- Communicate in French orally and in writing to describe themselves and others, daily routine, family, close environment, celebrations, vacations, homes, food, health, technology, cities, future and careers, nature and environment, and in the present, past, and future tenses.
- Comprehend both written and spoken language about themselves, and others, daily routine, family, close environment, celebrations, vacations, homes, food, health, technology, cities, future and careers, nature and environment, and in the present, past, and future tenses.
- Demonstrate a basic understanding of French spelling, pronunciation, and grammar. Express knowledge of the Francophone world including geography, history and daily life Connect French studies with other content areas studied at STEM School Highlands Ranch and found in the world around them.
- Illustrate similarities and differences between the French and American culture.

FRENCH IV			STEMHS0612F
Year long course	11th - 12th grade	None	

The emphasis in this course is on encouraging spontaneous expression through extensive oral and written practice via authentic documents (newspaper, magazines, advertisements,media) and literature. Extended discussion and personal reactions or opinions serve to increase correctness of expression. As much current cultural material as possible is integrated into the course to reinforce student proficiency and to prepare the student for the AP course or for proficiency tests as required by some colleges.

AP FRENCH			STEMHS0613F
Year long course	10th - 12th grade	$95 for AP Exam	**French II**

Advanced Placement foreign language classes offer the students a weighted credit. Students continue building their fluency in the language through oral, written, listening and reading practice. These classes are conducted entirely in the language with both students and teachers communicating only in the target language. Students prepare to take the Language Advanced Placement tests, which are given in May. The AP test must be taken in order to receive the AP designation on the transcript.Students are committed to AP classes for the entire school year and cannot change classes at semester.

SPANISH I			STEMHS069S
Year long course	9th - 11th grade	None	

Students in Level I will learn the basic skills of speaking, listening, reading, and writing as well as cultural information. Students will study present, future, and past tense verb conjugations, vocabulary, gender of nouns, adjective use, and sentence structure. These courses are designed to present students with the solid knowledge base necessary at intermediate and advanced language levels.

SPANISH II			STEMHS0610S
Year long course	9th - 11th grade	None	Spanish I

Some of the finer grammatical points are learned at this level, making language use a little more sophisticated. The students continue learning to express past events and begin learning more complicated grammatical constructions. Vocabulary learning continues to be an important component of language learning. Practice of all grammatical structures and vocabulary continues through speaking, writing, reading, and listening.

SPANISH III			STEMHS0611S
Year long course	10th - 12th grade	None	**Spanish II**

In Level III students continue to learn vocabulary and increasingly more complicated grammar and syntactical structures. They begin fine tuning their language by learning expressions, constructions, and different verb tenses and moods that are more complicated and are more native-like in quality. The student and teacher's use of the target language in the classroom increases greatly at this level of language learning.

SPANISH IV			STEMHS012S
Year long course	9th - 11th grade	None	**Spanish III**

Level IV classes are conducted entirely in the target language. The students work on improving their fluency in speaking, reading, writing and listening to the language they are learning. Vocabulary study continues as does practice and review of the grammatical structures already learned. Classroom discussions are conducted on topics of interest to the students. The reading is from works of native authors.

AP SPANISH LANGUAGE AND CULTURE			STEMHS0613S
Year long course	9th - 11th grade	$95 for AP Exam	Spanish IV

Advanced Placement foreign language classes offer the students a weighted credit. Students continue building their fluency in the language through oral, written, listening and reading practice. These classes are conducted entirely in the language with both students and teachers communicating only in the target language. Students in Level 5 classes prepare to take the Language Advanced Placement tests, which are given in May. The AP test must be taken in order to receive the AP designation on the transcript.Students are committed to AP classes for the entire school year and cannot change classes at semester.

AP SPANISH LITERATURE			STEMHS06155S
Year long course	10th - 12th grade	$95 for AP Exam	Spanish IV

The AP Spanish Literature course is intended to be the equivalent of a college third-year Introduction to Peninsular and Latin American literature. This course prepares students to analyze critically representative works of prose, poetry, and drama of Peninsular and Latin American literature of different historical periods from Medieval to the most recent trends. Students acquire a sense of literary expression as part of the human experience and understand the characteristics of major literary movements and the forces that shaped them. This allows for a profound analysis and understanding of the works presented without neglecting the enjoyment of literature as an art and reflection of themselves. Since this course is presented entirely in Spanish, students have the opportunity to communicate and improve their language skills as well as learn new basic vocabulary of critical terms.

AMERICAN SIGN LANGUAGE I			STEMHS069AS
Year long course	9th - 11th grade	None	

Introduces students to basic American Sign Language (ASL) skills, focusing on communication in a cultural context. Students will learn fingerspelling, basic ASL vocabulary, facial grammar and sentence structure. Students will also develop the visual receptive and expressive skills necessary to hold a beginning-level conversation in ASL. Topical information about the Deaf community, its history and culture will also be presented to provide students with a broad picture of language and culture.

AMERICAN SIGN LANGUAGE II			STEMHS070AS
Year long course	9th - 11th grade	None	American Sign Language I

American Sign Language II builds upon those skills developed in ASL I and applies additional grammatical principles for conversing in ASL. Students will focus on developing more fluent usage of ASL, expanding vocabulary, and furthering their visual receptive and expressive skills. This course also emphasizes the cultural behaviors and practices distinct to those who approach the world from a visual perspective.

AMERICAN SIGN LANGUAGE III			STEMHS071AS
Year long course	10th - 12th grade		**American Sign Language II**

ASL III will build on the foundations of ASL I and II. Students will expand their comprehension and apply receptive and expressive skills in more depth. They will build on their knowledge of ASL and Deaf Culture, continuing their cultural awareness by applying what they learn in the course to real life events. Students will apply their signing skills to deeper conversations while also expanding their understanding of cultural norms.

COMPUTER SCIENCE

GAME DESIGN I			STEMHS1017
Semester long course 0.5 credit	9th - 12th grade	None	

Students will be introduced to Computer Science concepts through the development and design of 3D video games using the Unity game engine and C# coding. This course is light on programming and focuses on all of the other aspects of game design that convey a mood, aesthetic, or feeling to users. The topics covered include materials and shaders, lighting, animation, particle effects, camera options, and post-processing settings. Students get to practice using the Unity interface and learning all of the tools built into Unity to streamline the development process.

GAME STUDIO			STEMHS1025
Year long course	10th - 12th grade	None	**Game Design I or demonstration of equivalent knowledge**

Design, build, and collaborate to create a singular game using a variety of tools (Sculptris, Unity Game Engine, Blender, Krita, etc.). Students will experience how a game studio functions and learn to work in large teams effectively. Students will learn Git and LFS Git repositories. Students will be expected to fill multiple roles, such as: 2D Concept Artist, 3D Modeler/Sculpture, 3D Rigger, Level Designer, Art Director, Sound Director, Composer, Character Designer, Software Engineer, Lead Game Designer, Story Director, Scrum Leader, and Networking and Database Engineer. Students are expected to pursue a certification in their respective field of study depending on the area of work, this course can count as STEM Elective or a Fine Arts credit.

AP COMPUTER SCIENCE A			STEMHS1014
Year long course 1.0 credit	9th - 12th grade	$95 for AP Exam	**AP Computer Science Principles is highly recommended**

Computer Science A emphasizes object-oriented programming methodology with a concentration on problem solving and algorithm development and is meant to be the equivalent of a first-semester college-level course in Computer Science. Students will learn Java. It also includes the study of data structures, design, and abstraction. Students will be prepared to take the AP Computer Science A exam.

AP COMPUTER SCIENCE PRINCIPLES			STEMHS1015
Year long course 1.0 credit	9th - 12th grade	$95 for AP Exam	

This course offers a multidisciplinary approach to teaching the underlying principles of computation. This course will introduce students to creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. Students get the opportunity to use technology to address real world problems and build relevant solutions.

CE CIS 1018 INTRO TO PC APPLICATIONS			STEMHS1040
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**

Introduces basic computer terminology, file management, and PC system components. Provides an overview of office application software including word processing, spreadsheets, databases, and presentation graphics. Includes the use of a web browser to access the Internet.

CE CSC 1019- INTRODUCTION TO PROGRAMMING (PYTHON)			STEMHS1031
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
Focuses on a general introduction to computer programming. This course emphasizes the design and implementation of structured and logically correct programs with good documentation. It is centered on basic programming concepts, including control structures, modularization, and data processing. A structured programming language is used to implement program designs. It emphasizes the writing of multiple programs following the software development process, from start to finish, including design, implementation, and testing.			

CE CNG 1021 COMPUTER TECHNICIAN 1 A+			STEM1010
Semester long course 1.5 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
Provides students with an in-depth look at personal computer hardware, introduces O.S. features and security concepts, and covers interpersonal skills, all of which are necessary for a successful entry-level computer service technician position. Provides extensive hands-on work with computer systems, PC setup and configuration, and basic maintenance and troubleshooting. This course helps prepare you for the CompTIA A+ Essentials Exam. [4 College Credits]			

CE CNG 1022 COMPUTER TEHCNICIAN II A+			STEMHS1011
Semester long course 1.5 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
Provides students with an in-depth look at Operating System support, maintenance, and troubleshooting, and an overview of hardware, security concepts, and interpersonal skills, all of which are necessary for a successful entry-level computer service technician position. Provides extensive hands-on work with Windows 2000 and/or XP, including using common GUI and command line tools, registry editing, System backup and Recovery, Networking, and O.S. Troubleshooting. This course helps prepare you for the CompTIA A+ 602 Exam.			

CE CNG 1024 NETWORKING I: NETWORK +			STEMHS1012
Semester long course 1.0 credit	10th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
Provides students with the knowledge necessary to understand, identify and perform necessary tasks involved in supporting a network. Covers the vendor-independent networking skills and concepts that affect all aspects of networking, such as installing and configuring the TCP/IP. This course also prepares students for the Networking II: Network + course (3 college credits).			

CE CNG 1025 NETWORKING II: NETWORK +			STEMHS1013
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement. Prerequisite CNG 1024**
Continues to provide students with the knowledge necessary to implement and support a network. Focuses on the vendor-independent networking skills and concepts that affect all aspects of networking. The Networking I and II: Network + courses prepare students for the Network + certification.			

CE CNG 1032 NETWORK SECURITY FUNDAMENTALS			STEMHS1021
Semester long course 1.0 credit	11th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement** **Corequisite CNG 1024**
Delivers a comprehensive overview of network security, including general security concepts. Communication Security is studied, including remote access, email, the Web, directory and file transfer, and wireless data. Common network attacks are introduced. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Computer forensics is introduced.			

CE CIS 2020 FUNDAMENTALS OF UNIX			STEMHS1028
Semester long course 1.0 credit	11th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
This concurrent enrollment course provides students with the structure and fundamentals of the UNIX operating system. It includes the file system, file processing, various utility programs, shell, multi-user operation, text processing and communications.			

CE CIS 2040 DATABASE DESIGN AND DEVELOPMENT			STEMHS1029
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
This concurrent enrollment course introduces the basic concepts of relational databases, data storage, and retrieval. Covers database design, data modeling, transaction processing, and introduces the Structured Query Language (SQL) for databases.			

CE CIS 2043 INTRODUCTION TO SQL			STEMHS1030
Semester long course 1.0 credit	11th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement**
This concurrent enrollment course introduces Structured Query Language (SQL) including creation of database structures and how to store, retrieve, and manipulate data in a relational database. This course also covers creating tables and views, using indexes, and developing stored procedures and triggers.			

CE CSC 1060 COMPUTER SCIENCE I: LANGUAGE			STEMHS1033
Semester long course 1.5 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement.** Prerequisite- CSC 1019 Corequisite- MAT 1340 or higher
Introduces students to the discipline of computer science and programming. Algorithm development, data representation, logical expressions, sub-programs and input/output operations using a high-level programming language are covered. Intensive lab work outside of class time is required.			

CE CSC 1061 COMPUTER SCIENCE II: LANGUAGE			STEMHS1034
Semester long course 1.5 credit	9th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement** Prerequisite CSC 1060
Continues algorithm development and problem solving techniques not covered in Computer Science I using a high-level programming language. Students are able to gain experience in the use of data structures and the design and implementation of larger software projects. Intensive computer laboratory experience is required for this course.			

CE CSC 2000 GAME PROGRAMMING I			STEMHS1035
Semester long course 1.0 credit	10th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE agreement** CSC 1019 and CSC 1026 with a grade of C or better
This concurrent enrollment course introduces Structured Query Language (SQL) including creation of database structures and how to store, retrieve, and manipulate data in a relational database. This course also covers creating tables and views, using indexes, and developing stored procedures and triggers.			

CE CSC 2017 ADVANCED PYTHON			STEMHS1038
Semester long course 1.0 credit	10th - 12th grade	Course fee TBD	**Students must enroll at ACC and fill out CE agreement.** Prerequisite- CSC 1019 Corequisite- MAT 1340 or higher
Continues program development and problem solving not covered in CSC1019: Introduction to Programming. Students will create larger programs in the areas of advanced expression, iterator objects, parsing, and GUI applications.			

CE CSC 2027 3D GAME PROGRAMMING			STEMHS1039
Semester long course 1.0 credit	10th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE agreement** Prerequisite CSC 1061 with a grade of C or better
Create and develop 3D games using a Game Engine. Learn the process of game development. Implement games utilizing 3D models with effects, textures, cameras, input handling, basic effects, basic collision detection and sounds.			

CE CSC 1026 GAME DESIGN AND DEVELOPMENT			STEMHS1032
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE agreement**
Combines problem-solving techniques with computer game design and implementation to introduce the student to basic gaming and computer science concepts. Students design, implement, and test computer games using software that allows for basic game creation through a wide variety of game creation tools; no prior programming experience is required.			

CERTIFIED ETHICAL HACKER			STEMHS1023
Semester long course 0.5 credit	11th - 12th grade	Course fee TBD	Minimum age of 16 years old and administration approval. CNG 1024, CNG 1025, & CIS 2020 are strongly recommended. Signed release form.
Delivers a comprehensive overview of network security, including general security concepts from both Security+ and Certified Ethical Hacker. Students will study various attack types including buffer overflows, SQL injections, Cross-site scripting, etc. Cryptography basics are incorporated, and operational/organizational security is discussed as it relates to physical security, disaster recovery, and business continuity. Computer forensics is introduced. The minimum age for this class is 16. Considering the nature of this course, applicants must be approved by the administration to take this course.			

ENGINEERING

FOUNDATION OF ENGINEERING			STEMHS2134
Year long course 1.0 credit	9th - 12th grade	Course fee TBD	

Survey course of engineering principles from a variety of disciplines. Students will have project based units on: 3D models and drawings, circuits, MATLAB coding, construction, materials, basic physics principles. This course helps prepare freshmen who did not attend STEM for middle school for more in-depth high school engineering paths (Biomedical, Aerospace, Robotics, etc). Can also be offered to 10-12th grade transfer students.

HS ROBOTICS			STEMHS219
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	

Students learn the basics of robotics and programming using the VEX V5 system. Subjects covered will include motors, sensors, servos, programming, functions, loops, and coding.

ROBOTICS II			STEMHS2110
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	HS Robotics or MS Advanced Robotics

Students will design and fabricate a robot to meet specific customized challenges. Most of these challenges will be based on National Robotics League, TSA (Technology Student Association) events, VEX, or other Robotic competitions. Arduino robotics projects and ground-up builds with electronic circuits/ components will also be part of curriculum.

TSA			STEMHS2118
Year long course 1.0 credit	9th - 12th grade	Course fee TBD	

Students will learn about technical sketching and drawing, how to apply mathematical principles to their design, and then use various tools and materials to bring their 3D projects to life.This is a hands-on inquiry based and problem/project driven class. Students will learn how to utilize the Engineering Design Process, critical thinking, and problem solving skills, to design and build projects. While learning about different materials and processes, students will also learn how to safely choose and operate the correct tool or machine for the job at hand. Students will learn to document their projects and solutions in an Engineering Notebook, and produce a presentation for each project. *May be taken multiple times for credit.

MANUFACTURING			STEMHS2115
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	
Students will learn to design a project in a 3D modeling program, then fabricate their project through processes such as 3D printing, Laser cutter and engraver, and CNC machining. Students will also learn about Manufacturing Processes including Assembly Line, Just In Time, and Batch.			

CE EIC 1001 ELECTRICAL PRINT READING			STEMHS2133
Semester long course 1.5 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement**
Teaches the skills needed to interpret electrical drawings properly. This 15 hour seminar is critical for anyone involved in the design, construction, or maintenance of electrical systems.			

CE ELT 1206 FUNDAMENTALS OF DC/AC			STEMHS2121
Semester long course 1.5 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement.** Prerequisite MAT 1140 or higher
Introduces the basic skills needed for many careers in electronics and related fields. Covers the operations and applications of basic DC and AC circuits consisting of resistors, capacitors, inductors, transformers and diodes. Emphasizes the use of common test instruments in troubleshooting.			

CE ELT 2254 INDUSTRIAL WIRING			STEMHS2129
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement.** Prerequisite ELT 1206
Focuses on the required and recommended practice for industrial wiring. The National Electrical Code is applied to industrial power and control wiring. Covers specification and installation of wiring, conduit, enclosures, and termination components in lecture and applied during lab.			

CE CAD 2455 SOLIDWORKS/MECHANICAL			STEMHS2125
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement**
Introduces parametric feature based solid modeling 3D concepts to build confidence in 3D thinking and progresses to three dimensional parameters. The student learns to construct, modify, and manage complex parts in 3D space as well as to produce 2D drawings from the 3D models.			

CE CAD 2660 3D PRINTING ADDITIVE MANUFACTURING			STEMHS2126
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement.** Prerequisite CAD 2455
Provides the student with the ability to blend the virtual and real design worlds together through the use of 3D CAD Modeling and 3D Printing.			

CE ELT 2252 MOTORS AND CONTROLS			STEMHS2128
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement.** Prerequisite ELT 1206- C or higher
Enables the student to study, construct, test, and evaluate basic industrial control systems, including AC/DC motors, stepper motors, power sources, generators, tachometers, line diagrams and logic functions. Covers safety standards and preventive maintenance.			

CE ELT 2455 FLUID POWER			STEMHS2130
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement** Prerequisite ELT 1206- C or higher
Enables the student to study, construct, test and evaluate circuit diagrams, transmission of force and energy, pumps and motors, actuators, cylinders, valves, and control devices. Incorporates the construction of hydraulic and pneumatic circuits using industrial equipment in the laboratory.			

CE ELT 2358 PROGRAMMABLE LOGIC CONTROLLERS			STEMHS2131
Semester long course 1.0 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement.** Prerequisite ELT 1206 and ELT 2252- with a C or higher
Covers the fundamentals of programmable logic controllers (PLCs) as they are applied in robotics and automation. Includes history, terminology, typical applications, hardware, and software. Incorporates lab and project activities that address operating, monitoring, programming, troubleshooting, and repairing PLC controlled lab trainers as well as actual industrial equipment.			

CE ELT 2367 INTRODUCTION TO ROBOTICS			STEMHS2132
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	**Student must enroll at ACC and fill out CE College agreement.** Prerequisite ELT 1206- C or higher
Introduces basic robotics. Enables the student to program a robot in a higher-level language to perform various tasks. Covers building and interfacing of sensor circuits.			

CE MSU-AES 1010 INTRO TO AVIATION AND AEROSPACE OPERATIONS			STEMHS240
Semester long course 1.0 credit	9th - 12th grade	This is part of the MSU Aerospace pathway	**Student must enroll at MSU and fill out CE College agreement**
The student is introduced to essential aviation and aerospace industry operations and related systems used within or by airports, space ports, airlines, air traffic control and weather observation and reporting services. General meteorology and weather-related issues that affect airport, spaceport, airline, and air traffic control operations will also be examined.			

CE MSU AES 1040 INTRODUCTION TO UNMANNED AIRCRAFT SYSTEMS			STEMHS241
Semester long course 1.0 credit	9th - 12th grade	This is part of the MSU Aerospace pathway	**Student must enroll at MSU and fill out CE College agreement**
This course gives the student pursuing aviation science an operational knowledge of unmanned aircraft systems (UAS). This includes small, medium, and large aviation vehicles (AV), flight and ground control processes, FAA regulations, UAS applications, mission operations, ethical and human factors concerns, and future considerations.			

AEROSPACE ENGINEERING I			STEMHS234
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	**Algebra I**

Students will be fully immersed in the Engineering Design Process as they learn the basics of Aerospace Engineering, with a focus on Aerodynamics, Rocketry, and Space Systems. They will design, create and test gliders, rockets, and other aerospace projects. They will analyze and simulate their designs virtually before developing precise manufacturing templates in order to build the physical projects. Students then will build their designs and compete in in-class challenges. This course will help students to be prepared to compete in extracurricular competitions.

AEROSPACE ENGINEERING II			STEMHS239
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	**Algebra I**

Students will continue to develop their skills in Aerospace Engineering and the Engineering Design Process as they focus on additional fields of Aerospace Engineering, such as Space Systems, Satellites, Orbital Mechanics, Drones and Space Materials. They will design, create and test drones, satellites, and other aerospace projects. They will analyze and simulate their designs virtually before developing precise manufacturing templates in order to build the physical projects. Students then will build their designs and compete in in-class and/or industry challenges. This course will help students to be prepared to compete in extracurricular competitions.

BIOMEDICAL ENGINEERING I			STEMHS236
Semester long course 0.5 credit	9th - 12th grade		Biology highly recommended

Students will learn about the principles of biomedical engineering. The course will consist of studying a biomedical problem (diabetes), learning about how we currently identify and manage the problem clinically and in research. Students will develop and test solutions to the overarching problem learned about in the course.

BIOMEDICAL ENGINEERING II			STEMHS237
Semester long course 0.5 credit	9th - 12th grade	Course fee TBD	**Biomedical Engineering I** **Algebra I**

This course focuses on prosthetic devices and other external biomedical engineering devices. Students will learn about how the body is affected by forces to guide their design of prosthetic devices.

BIOMEDICAL ENGINEERING III			STEMHS238
Year long course 1.0 credit	9th - 12th grade	Course fee TBD	**Biomedical Engineering II**
A deep dive into the principles of biomedical engineering with the focus primarily being on aspects of infectious diseases, sterile control, tissue engineering and other medical interventions.			

FINE ARTS

ADVANCED ART			STEMHS0511
Semester long course 0.5 credit	9th - 12th grade		Recommended: 2 levels of a particular medium
This course is designed for the advanced art student who is self motivated and driven. It is taught during AP Art class for one semester. Each project is student driven from start to finish. This course is self guided and self directed. Students will explore techniques and themes related to a given medium or material, develop a language of representation and begin developing a sustained investigation in art. The pace and expectations are rigorous. Students should only enroll in this course if they have completed two levels of a particular medium (Drawing and Painting, Ceramics). It is an excellent preparation for AP Art and Design as students participate in the AP Art classroom. It is also a great option for students to perfect an art style, technique or material independently. This course cannot be taken concurrently with AP Art as they are taught at the same time.			

CERAMICS I			STEMHS0512
Semester long course 0.5 credit	9th - 12th grade		
Ceramics I is an introduction to design, glazes, basic handbuilding, Coil construction, and slab construction, skills. Students are encouraged to try wheel throwing as an introduction. The course will provide students with a foundation in 3D principles of design and creative production. This course provides knowledge of ceramic techniques (e.g., kiln firing and glazing) and processes, with a focus on creative design and craftsmanship.			

CERAMICS II			STEMHS0513
Semester long course 0.5 credit	9th - 12th grade		
Ceramics II builds on the skills and concepts learned in Ceramics I and explores clay at an advanced level. This course has an emphasis on categories of ceramics such as ancient ceramics, sculpture in the round and ceramic sets. Elements of the history of ceramics are included and used for inspiration on projects through research.			

CERAMICS III			STEMHS0535
Semester long course 0.5 credit	9th - 12th grade		Ceramics I and II
Ceramics III builds on the skills and concepts learned in Ceramics II. The course requires the student to have a high production of studio artworks, research, and art criticism skills. Students focus on a body of work, with a high degree of study, artistic voice and relationship to historical precedents.			

DRAWING & PAINTING I			STEMHS059
Semester long course 0.5 credit	9th - 12th grade		
Students will explore different approaches to drawing & painting while applying the elements and principles of design to develop skills and sensitivity to line, shape, color, value, and composition. A variety of techniques will be explored. Students will be expected to develop technical skills and personal style.			

DRAWING AND PAINTING II			STEMHS0510
Semester long course 0.5 credit	9th - 12th grade		
Students will explore advanced drawing concepts, including but not limited to, space and form through mark making, abstraction, and historical styles of art. Students are expected to creat works of art that are personal to them with considerations toward messages, themes and style. A variety of artistic techniques and concepts will be explored including, hatching and stippling, color theory, emphasis, composition and unity.			

DIGITAL MEDIA I			STEMHS0547
Semester long course 0.5 credit	9th - 12th grade		Ceramics I and II

Students will learn digital photography, video production, and 3D modeling. In this course, students will create concept art in order to create video game assets using digital drawing software. Students will continue to advance their artistic skills and concepts required to create a video game. Creature/Character design will be the focus. Content includes a study of photography as a visual communication; perception and response to the visual aspects of photography found in prints, slides and published images; the valuing of the photographic image as a visual statement; the production of photographs with particular subject matter, types of lighting and variations in printing; the knowledge of images and styles of major photographers; the criteria for critically analyzing photographs to make judgments concerning quality; the knowledge of basic techniques for proper presentation of photographic works.

DIGITAL MEDIA II			STEMHS0548
Semester long course 0.5 credit	9th - 12th grade		Digital Media I

Students will advance in digital photography, video production, and 3D modeling. In this course, students will advance their skills in creating concept art in order to create video game assets using digital drawing software. Students will continue to advance their artistic skills and concepts required to create a video game. Creature/Character design will be the focus. Students will apply the concepts learned in photo I towards the creations of photographic images based on an idea or concept.

AP STUDIO ART: 2D DESIGN			STEMHS0521
Year long course 1.0 credit	9th - 12th grade	$95 for AP exam	

Designed for students with a serious interest in art, AP Studio Art—Drawing focuses on a variety of concepts and approaches in drawing, enabling students to demonstrate in-depth knowledge of the processes, range of abilities, and versatile uses of media, technique, problem solving, and scope. They can demonstrate such conceptual variety through the use of one or several media. These courses enable students to refine their skills and create artistic works to submit via portfolio to the College Board for evaluation.

AP STUDIO ART: 3D DESIGN			STEMHS0523
Year long course 1.0 credit	9th - 12th grade		Ceramics I and II

AP Studio Art—Three-Dimensional courses focus on a variety of concepts and approaches in 3-D design and creation, enabling students to demonstrate a range of abilities and versatility with media, technique, problem solving, and scope. They can demonstrate such conceptual variety through the use of one or several media. These courses enable students to refine their skills and create artistic works to submit via portfolio to the College Board for evaluation.

GAMING STUDIO			STEMHS1025
Year long course 1.0 credit	9th - 12th grade		

Design, build, and collaborate to create a singular game using a variety of tools (Sculptris, Unity Game Engine, Blender, Krita, etc.). Students will experience how a game studio functions and learn to work in large teams effectively. Students will learn Git and LFS Git repositories. Students will be expected to fill multiple roles, such as: 2D Concept Artist, 3D Modeler/Sculpture, 3D Rigger, Level Designer, Art Director, Sound Director, Composer, Character Designer, Software Engineer, Lead Game Designer, Story Director, Scrum Leader, and Networking and Database Engineer. Students are expected to pursue a certification in their Respective field of study. Depending on the area of work, this course can count as a STEM Elective or a Fine Arts credit.

CE MGD 1043 MOTION GRAPHIC DESIGN I			STEMHS1036
Semester long course 1.0 credit	9th - 12th grade		**Student must enroll at ACC and fill out CE College agreement.**

Stresses creation of animation and dynamic interactive media for web and multimedia applications to a professional standard. Students will learn how to develop projects for time-based media, key-frames, tweens and symbols. Students will learn how to use actions to trigger timeline events to create interactive behaviors.

CE MGS 1011 ADOBE PHOTOSHOP			STEMHS1037
Semester long course 1.0 credit	9th - 12th grade		**Student must enroll at ACC and fill out CE College agreement.**

Concentrates on the high-end capabilities of Adobe Photoshop as an illustration, design and photo retouching tool. Students explore a wide range of selection and manipulation techniques that can be applied to photos, graphics and videos. Course competencies and outline follow those set out by the Adobe Certified Associate exam in Visual Communication Using Adobe Photoshop.

MUSIC FUNDAMENTALS			STEMHS0532
Semester long course 0.5 credit	9th - 12th grade		

This semester-long repeatable course will cover music appreciation, music history, and basic music theory. We will cover how to read and write musical notation along with musical harmony to help deepen the understanding of how rhythm, pitch, dynamics, tempo, and timbre develop the melody, harmony, and form when creating music. Hopefully leading to musical exploration with the use of singing, key instruments, string instruments, wind instrument instruments, and technology. This class will provide a strong foundation for the second semester music production class.

MUSIC PRODUCTION			STEMHS0531
Semester long course 0.5 credit	9th - 12th grade		

This advanced semester-long (Spring) repeatable course focuses on the application of the fundamental course's use of composition, song creation and recording using high level equipment and a cloud based recording software. Other skills built are live recording, sound design, and music theory as an avenue to self expression and creation. In order to succeed in this class, you must be able to describe/demonstrate: basic harmonic progressions, the basics of rhythmic notation, musical form (in both classical and popular styles of writing), and be able to create simple melodies vocally or instrumentally. You will produce multiple pieces of music and you will build skills that allow you to more fluently express yourself through musical creation.

HS BEGINNING BAND			STEMHS0543
Year long course 1.0 credit	9th - 12th grade		

This year-long course is an introduction to performing music in the concert band setting for students with limited or no musical experience. This is a great follow-up course to the Fundamentals of Music class. Instruments taught in this course are flute, clarinet, trumpet, trombone, baritone, saxophone, and percussion (bell kit and snare drum), which can be expanded on in subsequent advanced instrumental band ensembles. STEM does not supply instruments but our instructor will help you determine the best option for obtaining the required materials before the year begins. Instrument maintenance, playing technique, and musical theory are all taught as you perform a variety of music with a group. We will perform as a band during concerts throughout the year.

HS INTERMEDIATE BAND			STEMHS0528
Year long course 1.0 credit	9th - 12th grade		Audition Required

This year-long repeatable course is the intermediary between STEM's Beginner Band and Concert Band Ensembles. We will perform classical transcriptions and arrangements of popular music for multiple concerts and school events. Members must be able to perform three-four major scales of their choice with characteristic tone, a portion of the chromatic scale, and sightread notated music that feature rhythms such as half notes, quarter notes, quarter rests, and eighth notes. Instrumentation for Intermediate Band is flute, clarinet, trumpet, trombone, baritone, saxophone(s) (alto and/or tenor), tuba, and french horn, percussion (Snare,Bass drum Keys, Aux).

HS CONCERT BAND			STEMHS0544
Year long course 0.5 credit	9th - 12th grade		Audition Required

This year-long repeatable course is the Advanced Band Ensemble. Instrumentation for this Band ensemble is: flute, clarinet, trumpet, trombone, baritone, saxophone(s) (altos, tenor, baritone), euphonium, tuba, piccolo, french horn and percussion (Snare drum, Bass Drum, Bell kit and Auxiliary percussion). We will perform classical transcriptions and arrangements of popular music for multiple concerts and school events. Members must be able to perform six or more major scales of their choice with a characteristic tone, a portion of the chromatic scale, and sightread notated music that feature rhythms such as half notes, quarter notes, quarter rests, and eighth notes, eighth rest sixteenth notes, doted half and dotted quarter and dotted 8th notes.

HS ORCHESTRA			STEMHS0542
Year long course 1.0 credit	9th - 12th grade		Audition Required

This year-long repeatable course is a large String Ensemble. They will perform classical transcriptions and arrangements of popular music for multiple concerts and school events. Members must be able to perform four or more major scales of their choice with correct intonation, a portion of the chromatic scale, and sightread notated music that feature rhythms such as half notes, quarter notes, quarter rests, and eighth notes, eighth rest sixteenth notes Doted half and dotted quarter and dotted 8th notes. Instrumentation for this String ensemble is: Violin, Viola, Cello, Double Bass.

CHOIR			STEMHS0526
Semester long course 0.5 credit	9th - 12th grade		

- Students learn proper breath support and vocal production
- Students perform at concerts and events
- Students will learn a variety of vocal genres
- Students learn to read music as it applies to vocal scores
- Students write, produce and perform original music

HS THEATER I			STEMHS0123
Semester long course 0.5 credit	9th - 12th grade		

A comprehensive beginning theater class. the purpose of the course is to give students an overview of Theater in general. We learn the tools of theater in mind. body. and voice which include the following: Scene work, monologues, improvisation, and pantomime. Major emphasis of the class is on developing beginning acting skills, teamwork and self esteem.

HS THEATER II			STEMHS0125
Semester long course 0.5 credit	9th - 12th grade		Theater I

Theater II helps students develop experience and skill in one or more aspects of theatrical production. Advanced courses concentrate on extending and refining dramatic technique, by expanding students' exposure to different types of theatrical techniques and traditions and increasing their participation in public productions.Theater II helps students develop experience and skill in one or more aspects of theatrical production. Advanced courses concentrate on extending and refining dramatic technique, by expanding students' exposure to different types of theatrical techniques and traditions and increasing their participation in public productions. Theater II Curriculum is performance based. It has been developed to expand and deepen the students' skills as an artist. They will do so by building on material covered in Theater I curriculum, with units in: Character Analysis, Monologue Analysis,and writing, Shakespeare Performance, and Design. The curriculum will culminate in a performance.

HS THEATER PERFORMANCE			STEMHS0126
Semester long course 0.5 credit	9th - 12th grade		

Theater Performance courses provide students with experience and skill development in one or more aspects of theatrical production, by allowing them to concentrate on acting and performance skills. Introductory courses explore fundamentals, while advanced courses extend and refine technique, expand students' exposure to different types of theatrical craft and traditions, and increase their participation in public productions.

HS THEATER TECH			STEMHS0131
Semester long course 0.5 credit	9th - 12th grade		

Drama is a discipline that requires collaboration, visioning, compromising, leading, and following. Without all these moving parts, it doesn't work. That's why technical theater is important: it is the unsung hero of our industry, where the actors and directors are celebrated. How can a solid, holistic drama program exist if all members do not experience all the moving parts? Technical theater will give you the opportunity to introduce lighting, sound, costuming, staging, stage management, and makeup into our program. The great thing about this class is that it gives an opportunity for those who are not interested in performing an opportunity to be in the theater - behind the scenes.

PHYSICAL EDUCATION

STRENGTH AND CONDITIONING			STEMHS0812
Semester long course 0.5 credit	9th - 12th grade		

This class will focus on furthering the knowledge base of effectively utilizing the weight room to promote physical fitness and maintain overall wellness. Logs of exercise, workouts, diet, health markers/body measurements, and sleep will provide insight into student's individual health and also enable them to evaluate their daily choices leading to their overall health. Developing techniques in creating workout routines, exploring varying diets, and researching means of exercise will be both uncovered and explored by student learning. We will also engage in various team sports and activities that will teach you about teamwork, sportsmanship, and individual physical fitness. This class may be taken multiple times for credit.

PHYSICAL EDUCATION			STEMHS089
Semester long course 0.5 credit	9th - 12th grade		

This course will teach and develop lifelong habits promoting the physical well-being of the individual. Though the primary means of fitness will be resistance/strength training, students will be exposed to and practice many areas of fitness. These areas may include: yoga, flexibility, cardiovascular exercise, crossfit, exercise videos, and fitness testing. Fitness testing is utilized as markers of physical fitness as well as to identify improvements in physical fitness. There are various standards that students are asked to meet, but at varying levels. As individuals we are discovering what it means to be a smart consumer of exercise while also uncovering what it means to be "healthy." This class may be taken multiple times for credit.

SPORTS AND GAMES			STEMHS090
Semester long course 0.5 credit	9th - 12th grade		

Concentrates on the different skills, rules and strategies of individual and team sports/games. Teamwork and competition are emphasized. Students will learn the skills necessary to play each sport/game, rules and terminology associated with the sport/game and offensive/defensive strategies particular to the sport/game. Sportsmanship and competitiveness are learned and practiced, along with leadership.

HEALTHY DECISIONS			STEMHS0810
Semester long course 0.5 credit	9th - 12th grade		

This course is designed to encompass concepts related to mental, emotional, physical, personal and social well-being. The topics covered include Nutrition, Mental and Emotional Health, Managing Stress, Resolving Conflicts and Preventing Violence, Tobacco, Alcohol, Illegal Drugs, Sexual Education, and Social Health.

GENERAL ELECTIVES

AP RESEARCH			STEMHS2404
Year long course 1.0 credit	9th - 12th grade	$95 for AP exam	

AP Research courses provide students with the opportunity to conduct an in-depth, mentored research project. Course topics include research methods, ethical research practices, and accessing, analyzing, and synthesizing information to address a research question. Courses culminate with an academic thesis paper and an oral defense of the research design, approach, and findings.

AP SEMINAR			STEMHS2403
Year long course 1.0 credit	9th - 12th grade	$95 for AP exam	

AP Seminar courses provide students with the opportunity to explore complex real world issues through cross-curricular lenses. Course topics vary and may include local, civic, or global issues and interdisciplinary subject areas. Courses typically emphasize research, communication, and critical-thinking skills to explore the issues addressed. Students may also examine source materials such as articles and other texts; speeches and personal accounts; and relevant artistic and literary works.

ACCOUNTING I			STEMHS1214
Semester long course 0.5 credit	9th - 12th grade		Algebra I strongly recommended

This course prepares the accounting student in the theory and techniques of accounting necessary for the advanced courses and provides a basic introduction to accounting for those students pursuing an accounting degree. Students will be introduced to financial statements and the accounting cycle for a service and merchandise business.
* This course counts as a general elective; it does not count as a Math or STEM elective.

SCHOOL-BASED ENTERPRISE			STEMHS1215
Year long course 1.0 credit	9th - 12th grade	$95 for AP exam	

Students enrolled in this course will work in the student store where they will gain valuable work experience, customer service skills, merchandising and basic money handling skills. This course also includes classroom instruction on the fundamentals of retail marketing. Students are automatically enrolled in DECA or FBLA, which are the Business Career and Technical Student Organizations. Opportunities available through DECA and FBLA include leadership development, field trips, travel, and competition. Students who successfully complete this course will be prepared for entry-level positions in retail.

The School-Based Enterprise (SBE) is an entrepreneurial operation in a school setting that provides goods/services to meet the needs of the market. SBE's are managed and operated by students as hands-on learning laboratories that integrate National Curriculum standards in Marketing, Finance, Hospitality or Management. SBE's provide realistic and practical learning experiences that reinforce classroom instruction. * This course counts as a general elective; it does not count as a Math or STEM elective.

CE BUS 1015 INTRO TO BUSINESS			STEMHS128
Semester long course 1.0 credit for 11th -12th grade 0.5 credit for 9th - 10th grade	9th - 12th grade	Textbook fees	**Students must enroll at ACC and fill out CE agreement**

AP Seminar courses provide students with the opportunity to explore complex real world issues through cross-curricular lenses. Course topics vary and may include local, civic, or global issues and interdisciplinary subject areas. Courses typically emphasize research, communication, and critical-thinking skills to explore the issues addressed. Students may also examine source materials such as articles and other texts; speeches and personal accounts; and relevant artistic and literary works.

CE MAR 2016 PRINCIPLES OF MARKETING			STEMHS1212
Semester long course 1.0 credit for 11th -12th grade 0.5 credit for 9th-10th grade	9th - 12th grade	Textbook fees	**Students must enroll at ACC and fill out CE agreement**

Presents the analysis of theoretical marketing processes and the strategies of product development, pricing, promotion and distribution, and their applications to businesses and the individual consumer.

CE ENP 1005 INTRODUCTION TO ENTREPRENEURSHIP			STEMHS1213
Semester long course 1.0 credit for 11th -12th grade 0.5 credit for 9th-10th grade	9th - 12th grade	Textbook fees	**Students must enroll at ACC and fill out CE agreement**
Explores the business skills, personality traits, and commitment necessary to successfully plan, launch, and grow an entrepreneurial venture. This course will cover the challenges and rewards of entrepreneurship. This course will cover the role of entrepreneurial businesses in the United States and the world and their impact on our national and global economy.			

CE BUS 1021 BASIC WORKPLACE SKILLS			STEMHS1216
Semester long course 1.0 credit for 11th -12th grade 0.5 credit for 9th-10th grade	9th - 12th grade	Textbook fees	**Students must enroll at ACC and fill out CE agreement**
Focuses on personal and workplace skills necessary for successful performance. This course introduces project management principles necessary to effectively lead and implement a project.			

CE BUS 2017 BUSINESS COMMUNICATIONS & REPORT WRITING			STEMHS1217
Semester long course 1.0 credit for 11th -12th grade 0.5 credit for 9th-10th grade	9th - 12th grade	Textbook fees	**Students must enroll at ACC and fill out CE agreement**
Emphasizes effective business writing and covers letters, memoranda, reports, application letters, and resumes. Includes the fundamentals of business communication and an introduction to international communication.			

CE BUS 2026 BUSINESS STATISTICS			STEMHS1218
Semester long course 1.0 credit for 11th -12th grade 0.5 credit for 9th-10th grade	9th - 12th grade	Textbook fees	**Students must enroll at ACC and fill out CE agreement**
Focuses on statistical study, sampling, organizing and visualizing data, descriptive statistics, probability, bi-nominal distributions, normal distributions, confidence intervals, linear regression, and correlation. Intended for business majors.			

AP BUSINESS PRINCIPLES			STEMHS1219
Year long course 1.0 credit	9th - 12th grade	$95 AP exam fee	

AP Business Principles is an engaging introductory course for any student interested in a business major or career. The course exposes students to the fields of marketing, finance, accounting, and strategy through case analysis of real businesses. We are developing the course in partnership with colleges, universities, high schools, and disciplinary organizations.

YEARBOOK			STEMHS0113
Year long course 1.0 credit	9th - 12th grade		

This is an experiential course in which students will write, edit, design, and layout the school yearbook. Leadership, cooperation and high standards of achievement are essential to success in this class. Students will be assigned roles such as a reporter, editor, copywriter, design editor and photographer. Students will work together as a team to produce a high quality yearbook highlighting the achievements of STEM School students, faculty and staff. This is an English elective course and does not meet graduation requirements for English.

INTRODUCTION TO CREATIVE WRITING			STEMHS0127
Semester long course 0.5 credit	9th - 12th grade		

Introduction to Creative Writing offers students the opportunity to develop and improve their technique and individual style in poetry, short story, drama, essays, and other forms of prose. The emphasis of the course is on writing: however, students may study exemplary representations and authors to obtain a fuller appreciation of the form and craft. This course will allow students to transfer literacy skills obtained in their main English courses and apply them in a real-world context by learning about publication.

HS STUDY HALL			STEMHS221
Semester long course 0.0 credit	9th - 12th grade		

Supervised class period devoted to completing assigned class work or projects.

PROFESSIONAL INTERNSHIP			STEMHS2124
Semester long course 0.5 credit	11th - 12th grade		Required enrollment with CareerWise OR approval from Career Discovery team.
Students will work in a professional setting in an industry that aligns with their career interests or goals. Students will have an onsite supervisor, as well as report to a STEM School supervisor for periodic reporting. Students will only be placed in Internships that are approved by The STEM School and Academy for this credit. Actual content and specific industry will vary according to student interest, and availability of industry partners.Students will be evaluated regularly, and if they do not meet identified expectations, they will be removed from the program, and will not receive credit. Student evaluations will be based on:Attendance, Attitude and Accomplishments			

TEACHER/OFFICE ASSISTANT			STEMHS224
Semester long course 0.25 credit	11th - 12th grade		**Administrative Approval**
Teacher/Office assistants provide needed support to classroom teachers, office staff, and students. They are instrumental in providing instructional support to enrich teaching by providing individual support to students as needed. Teacher/Office assistants help staff with various duties including clerical support by distributing materials, photocopying, and filing. Classroom teachers may require a teacher assistant to check and grade assignments and collect various materials for the upcoming lessons. Office staff may require an office assistant to work on special projects that require attention to make the school run smoothly. As an assistant, you should be able to work independently to complete responsibilities with minimal supervision.			

STEM SCHOOL
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