



# Course Catalog Night

Class of 2029

February 11, 2026

# RHS Course Catalog Night Schedule

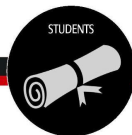
February 11, 2026

|               | 9th Grade - PAC                      | 10th Grade - Library Media Center | 11th Grade - iLab |
|---------------|--------------------------------------|-----------------------------------|-------------------|
| 7:00 - 7:12   | ALL - PRINCIPAL'S ADDRESS IN THE PAC |                                   |                   |
| 5 min passing |                                      |                                   |                   |
| 7:17 - 7:25   | World Language                       | Music                             | Art               |
| 7:25 - 7:33   | English                              | Social Studies                    | Math              |
| 3 min passing |                                      |                                   |                   |
| 7:36 - 7:44   | Art                                  | Science                           | Music             |
| 7:44 - 7:52   | Math                                 | Comp Sci/Engineer                 | Social Studies    |
| 3 min passing |                                      |                                   |                   |
| 7:55 - 8:03   | Music                                | World Language                    | Science           |
| 8:03 - 8:11   | Social Studies                       | English                           | Comp Sci/Engineer |
| 3 min passing |                                      |                                   |                   |
| 8:14 - 8:22   | Science                              | Art                               | World Language    |
| 8:22 - 8:30   | Comp Sci/Engineer                    | Math                              | English           |



The Board of Education of the Rye City School District understands that a world class education requires hard work and dedication from everyone in the community. We take our responsibility of overseeing the education of our children in an equitable, inclusive environment very seriously. We are genuinely grateful to the faculty, staff, administration, families, and community for all of the hard work and support provided every day to educate our children.

Therefore, the Board of Education has developed **The Rye Commitment** – assurances to students, faculty, staff, administration, and the community that we will support the important work of our schools.



#### TO STUDENTS:

We will provide the necessary support for you to receive an education that helps you become socially responsible, caring citizens who can think critically, communicate effectively, collaborate, and creatively solve problems in a diverse global environment.



#### TO FACULTY, STAFF, AND ADMINISTRATION:

We will support you and our collective pursuit of excellence through ongoing professional learning that is high quality, relevant, meaningful, and allows us to evolve and expand our practices.



#### TO THE COMMUNITY:

We will reflect upon our work, always strive for improvement, and ask the community to engage in meaningful discussions about our programs and all that we do to create and support an equitable, inclusive school system.

## COMMITTED TO RYE SCHOOLS

Adopted September 2020



# School Counseling Department

Mr. Charles Cipriano

Mrs. Jaime Condon

Mrs. Honor Fagan

Mrs. Jennifer Herwick

Mrs. Elizabeth Saporito

Mr. Garrett Renner



# Department Coordinators

Arts Department - Mr. Tony Campbell

Computer Science/Engineering - Dr. Kaitlyn Sassone

English Department - Ms. Christen Klewicki

IB Coordinator - Mr. Anthony Frabizzio

Math Department - Ms. Beth Naber

Music Department - Mr. Tyler Schwirian

Science Department - Ms. Katrina Smith

Social Studies - Ms. Kristen Warner

World Languages - Ms. Maite Frost



# Course Request Process/Timeline

- **Week of February 2nd:** Teacher Recommendations and Department Presentations
- **February 9-13:** School Counselors visit English classes for grades 9-11. Students submit a “Draft” of course requests.
- Students discuss requests with parents/guardians. Follow up with teachers with any questions about course content, workload, or other related information.

## Individual Meetings w/School Counselors

- Class of 2029: February 23 - 27
- Class of 2028: March 4 - 17
- Class of 2027: March 23 - April 13

## Final Course Request Deadlines

- Class of 2028: Friday, February 27
- Class of 2027: Tuesday, March 17
- Class of 2026: Monday, April 13



# Faculty & School Counselors Responsibility

## Faculty

- ◉ Provide thoughtful recommendations based on student work habits, academic performance and demonstrated ability
- ◉ Share detailed information about the courses offered in their department of expertise
- ◉ Help students understand work expectations of future courses

## School Counselors

- ◉ Classroom lessons to all students in grades 8 through 11
- ◉ Remind students to maintain focus on their interests and values as it relates to their course requests
- ◉ Review graduation requirements and grade level requirements with each student
- ◉ Facilitate a level of growth, independence, and confidence in each student's decision making process



# Student & Parent Responsibilities During Scheduling

## Students

- Think about courses that you have an interest in and will enjoy
- Focus on balancing your academic workload with other responsibilities
- Lean on teacher recommendations and the course catalog to help make decisions
- Don't forget to consider required summer assignments
- Make sure you are prepared to finalize your course requests during your individual meeting with your School Counselor

## Parents

- Help your children realistically consider the time commitments required by academic and extracurricular commitments
- Encourage your child to follow the path that brings them the most enjoyment/fulfillment
- Support your child's decision making process



# Sample Student Schedule (10th Grade)

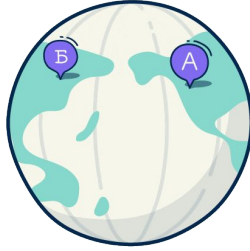
|                 |                                                                |
|-----------------|----------------------------------------------------------------|
| Course 1        | English 10                                                     |
| Course 2        | Global History 10 or AP World History                          |
| Course 3        | Math (as per teacher recommendation)                           |
| Course 4        | World Language (as per teacher rec)                            |
| COMMUNITY LUNCH |                                                                |
| Course 5        | Chemistry (Action, Regents or Honors) or Earth & Space Science |
| Course 6        | Science Lab (2x week), Physical Education (2/3x week)          |
| Course 7        | Health (semester)/ Elective (semester)                         |
| Course 8        | Elective (one full year or two semester electives)             |



# Course Prerequisites and Teacher Recommendations

- ❑ In the event that a student and family do not agree with a teacher recommendation, then they have the ability to request an override.
- ❑ While families have the ability to override a teacher recommendation, a course prerequisite cannot be overridden. For more information about individual course prerequisites please refer to the [course catalog](#). ***Please note that effective for the 2026-2027 school year, students are limited to two (2) overrides into advanced classes per school year.***
- ❑ Override Process Outlined
  - ❑ Students obtain a hard copy of the override form from their School Counselor (they must pick up this form in person)
  - ❑ Read the form carefully, take all necessary steps to complete the form by the deadline listed on the form
  - ❑ Bring completed override form to your individual course request meeting with your School Counselor





# World Languages Department

Maite Frost  
World Language coordinator 9-12



# Highlights

-  5 languages
-  Honors classes, IB credit, University Credit
-  Seal of Biliteracy

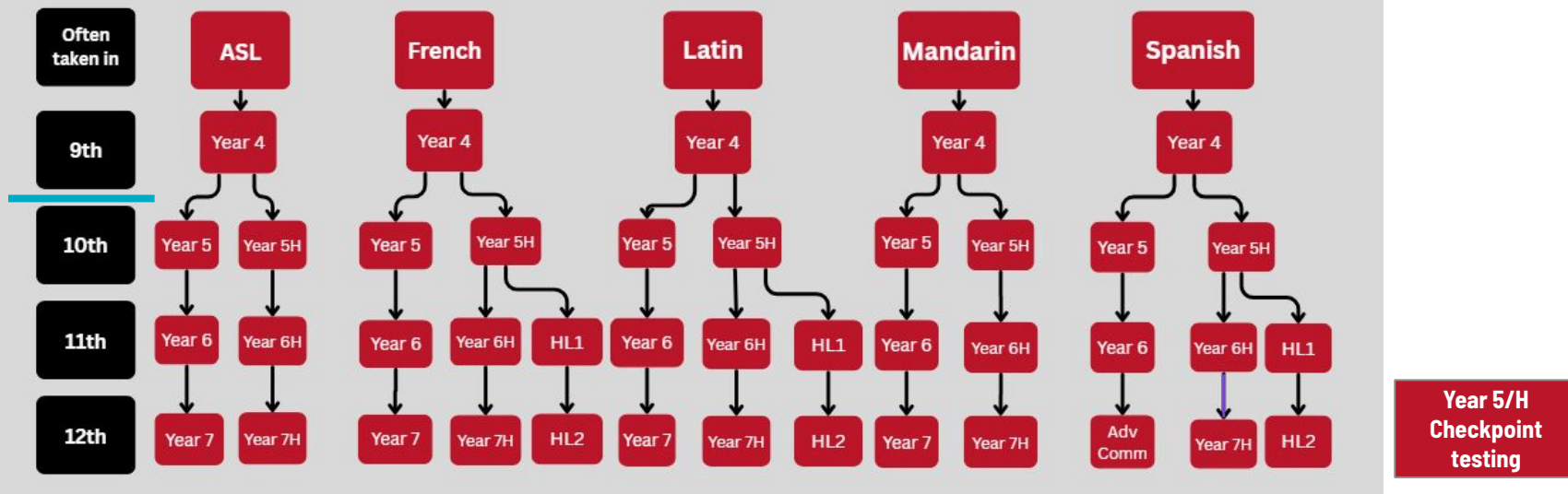


# World Languages Course Sequence

## World Language

### COURSE SEQUENCE

This chart represents the World Language sequence for the majority of students who begin in Rye Middle School





# Proficiency targets

## ASL, French and Spanish

| <i>At the end of</i> | <i>Acceptable Proficiency Level for Speaking</i> |
|----------------------|--------------------------------------------------|
| Year 1               | Novice High                                      |
| Year 2               | Intermediate Low                                 |
| Year 3               | Intermediate Mid-                                |
| Year 4               | Intermediate Mid                                 |
| Year 5               | Intermediate High-                               |
| Year 6               | Intermediate High                                |
| Year 7               | Advanced Low-                                    |

## Mandarin

| <i>At the end of</i> | <i>Acceptable Proficiency Level for Speaking</i> |
|----------------------|--------------------------------------------------|
| Year 1               | Novice Mid                                       |
| Year 2               | Novice High                                      |
| Year 3               | Intermediate Low                                 |
| Year 4               | Intermediate Mid-                                |
| Year 5               | Intermediate Mid                                 |
| Year 6               | Intermediate High-                               |
| Year 7               | Intermediate High                                |

Each World Language course focuses on student proficiency objectives, specifically, proficiency targets. To become proficient in the language, students must practice reading, writing, listening and speaking (speaking= signing for ASL) with a predominant focus on speaking. Through benchmarks and progress indicators, students are able to identify their levels of language proficiency. Benchmarks are specific statements of what students should know and be able to do communicatively. Communication focuses on interpersonal, presentational, and the interpretive modes. The chart above shows the proficiency target levels.

# Honors Courses

- Students are expected to exclusively use the target language
- Conducted entirely in the Target Language
- Commitment to be an active participant in and out of the classroom
- More challenging material
- More complex assessments with proficiency rigor



# Seal of Biliteracy

Prestigious diploma distinction for 12th grade students who attain a high level of proficiency in 2 or more languages (your native language & an additional language)



## Coordinator:

Sheau-Yuann Rynne

## Google Classroom

ba65x3s

### LANGUAGE TESTING INTERNATIONAL SEAL OF BILITERACY ACHIEVEMENT SCHOLARSHIP



**Victoria Cuellar Garcia**  
Wadsworth HS,  
Ohio



**Mailey Hamilton**  
East Jordan HS  
Michigan



**Rachel DeAngelis**  
Westerly HS  
Rhode Island



**Elani Spencer**  
School of the  
Arts, New York



**Arely Guadalupe**  
Wheeling High School,  
Illinois



**Evan Thoms**  
Coronado HS,  
California



**Leyla Murati**  
Rye HS,  
New York





# English Department

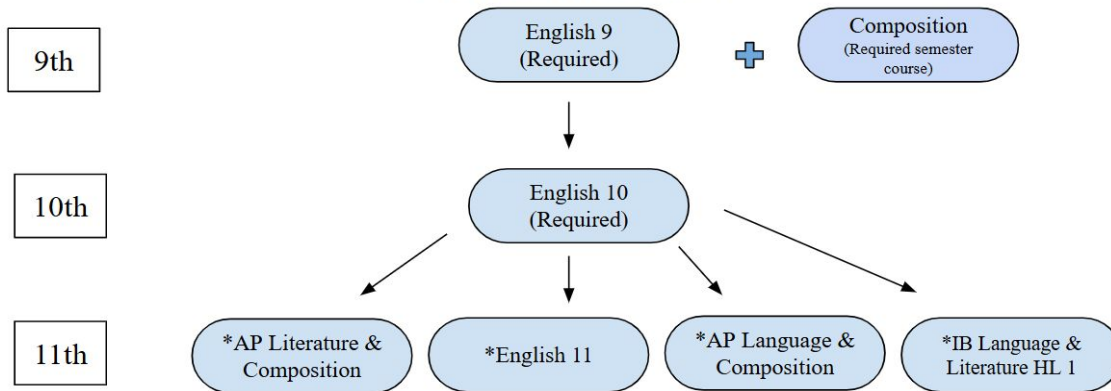
Christen Klewicki

English Department Coordinator

Scheduling meeting for Current 9th Grade Students

# English Department Courses 2026-2027

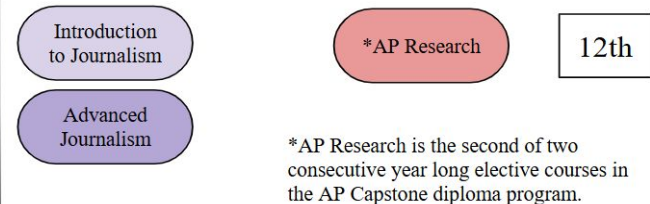
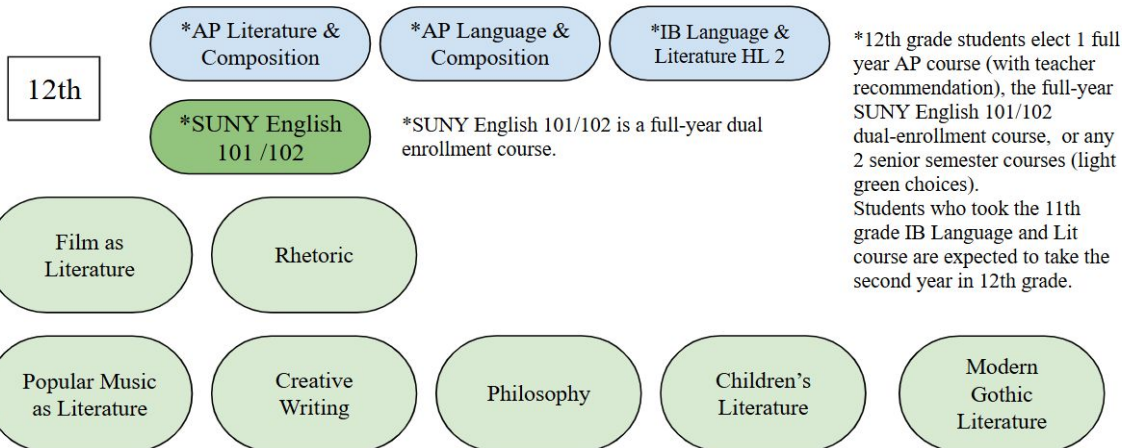
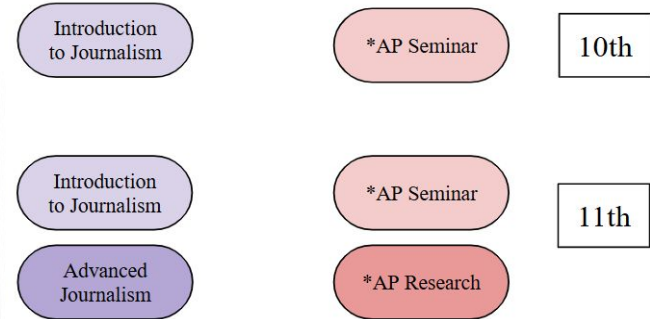
## ENGLISH CORE COURSES



\*All 11th grade students select one of the following required courses: English 11, AP English Language & Composition, or AP English Literature and Composition, or IB Language and literature (a 2-year course)

## COURSES FOR ELECTIVE CREDIT

\*AP Seminar is a year long course offered for elective credit for grades 10 and 11. It is the first course in the AP Capstone diploma program.



# English 10

- Students explore four thematic units: perspective, awareness & connections, society & influence, and citizenship. English 10 students further develop their critical reading and writing skills in this course.
- Students engage in an inquiry project that involves identifying a problem in society, researching possible causes and solutions, and presenting expert views in a productive manner.
- All English 10 students in NY State learn about the Holocaust, primarily through reading personal accounts in a critical and reflective manner.



# AP Seminar (full year elective credit)

Students learn and apply research skills and strategies in this course, primarily through reading complex academic sources and writing extensively. Students investigate issues of interest, analyze complex arguments in peer-reviewed journal articles, and synthesize information from multiple sources to compose research papers. Students also create multimedia presentations to showcase their research.

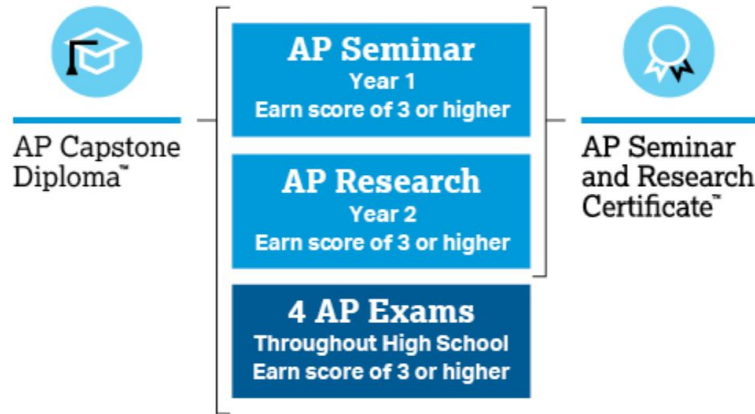
- ★ Students must be prepared to complete assignments on time; many tasks are cumulative, so missing class negatively impacts performance. The College Board sets external submission deadlines. To be successful, students must be able to work independently on long-term research tasks. Additionally, some research projects require group collaboration, so students must be responsible and collaborative.

\*AP Seminar is the first of two AP Courses in the AP Capstone diploma program; students can take AP Seminar in 10th grade or 11th grade. AP Research is the second course in the Capstone program.



# AP Capstone Diploma / AP Seminar & AP Research Certificate

Students who earn scores of 3 or higher in AP Seminar and AP Research and on four additional AP Exams of their choosing receive the AP Capstone Diploma. Students who earn scores of 3 or higher in AP Seminar and AP Research but not on four additional AP Exams receive the AP Seminar and Research Certificate.



★ The AP Capstone Diploma and AP Seminar and Research Certificate are reported to colleges and universities by the College Board as AP Scholar Awards and appear in Scholar Roster reports.

## When should students consider an AP course?

### Would you answer “yes” to the following questions:

- Do you enjoy reading?
- Do you read in your free time, and select your own books to read in addition to assigned books?
- Can you draft essays independently?
- Do you revise your writing?
- Do you thoughtfully complete all of your English homework?
- Is your English grade in the “A” range or “B+” range?



# Introduction to Journalism

## (semester elective credit)

- Students learn about the various formats of journalistic writing (print, web, video, podcast), and they create original works in various story forms (including straight news, feature writing, profiles, and op-eds).
- Students develop interviewing and reporting skills; they also learn how to critically assess and evaluate various forms of media.



# **Art & Design Department:**

**Course Offerings for  
September 2026**

## RYE HIGH SCHOOL ART & DESIGN DEPARTMENT COURSE OFFERINGS

|                     | 9-12 GRADE                                                                                                                                                                                                          | 10-12 GRADE                                                                                                                                                                                                                                                             | 11-12 GRADE                                                                                                                                                                                                                                                                      |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIGITAL MEDIA TRACK | <b>STUDIO ART DIGITAL MEDIA</b><br>1/2 CREDIT, 9-12 grade<br><i>meets NYS Art requirement</i><br><br><b>STUDIO ART GRAPHIC DESIGN &amp; ANIMATION</b><br>1/2 CREDIT, 9-12 grade<br><i>meets NYS Art requirement</i> | <b>ADVANCED DIGITAL MEDIA</b><br>1/2 CREDIT, 10-12 grade<br><i>Studio Art Digital Media or Studio Graphic Design prerequisite</i>                                                                                                                                       | <b>AP STUDIO ART 2D DESIGN DIGITAL MEDIA</b><br>1 CREDIT, 10-12 grade<br><i>1 credit in digital media electives prerequisite</i><br><br><b>YEARBOOK JOURNALISM</b><br>1 CREDIT<br>11-12 grade                                                                                    |
| 2D DESIGN TRACK     | <b>STUDIO ART PAINTING &amp; DRAWING</b><br>1/2 CREDIT, 9-12 grade<br><i>meets NYS Art requirement</i><br><br><b>STUDIO ART MIXED MEDIA</b><br>1/2 CREDIT, 9-12 grade<br><i>meets NYS Art requirement</i>           | <b>ADVANCED PAINTING &amp; DRAWING</b><br>1/2 CREDIT, 10-12 grade<br><i>Studio Painting &amp; Drawing or Mixed Media prerequisite</i><br><br><b>ADVANCED MIXED MEDIA</b><br>1/2 CREDIT, 10-12 grade<br><i>Studio Painting &amp; Drawing or Mixed Media prerequisite</i> | <b>AP STUDIO ART DRAWING</b><br>1 CREDIT, 11-12 grade<br><i>1 credit in Art electives, including an Advanced Level prerequisite</i><br><br><b>AP STUDIO ART 2D DESIGN</b><br>1 CREDIT, 11-12 grade<br><i>1 credit in Art electives, including an Advanced Level prerequisite</i> |
| 3D DESIGN TRACK     | <b>STUDIO ART 3D DESIGN &amp; ARCHITECTURE</b><br>1/2 CREDIT, 9-12 grade<br><i>meets NYS Art requirement</i>                                                                                                        | <b>CERAMICS</b><br>1/2 CREDIT, 10-12 grade<br><br><b>ADVANCED 3D DESIGN &amp; CERAMICS</b><br>1/2 CREDIT, 10-12 grade<br><i>Studio in 3D or Ceramics prerequisite</i>                                                                                                   | <div> <b>IB SL VISUAL ARTS</b><br/>           1 CREDIT, 11-12 grade<br/> <i>1 credit in Art electives recommended</i> </div>                                                                                                                                                     |



# "Studio" Art Classes

## Studio Art Painting and Drawing

$\frac{1}{2}$  credit towards required NYS Art Credit for Graduation

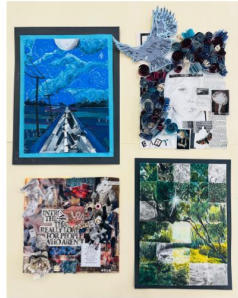
Grades: 9 -12 Prereq: None



## Studio Art Mixed Media

$\frac{1}{2}$  credit towards NYS Art Credit for Graduation

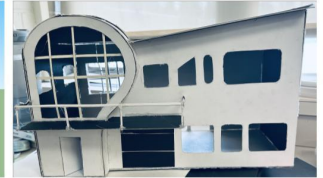
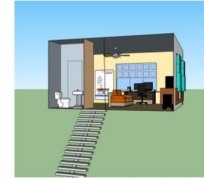
Grades: 9 -12 Prereq: None



## Studio in 3-D Design and Architecture

$\frac{1}{2}$  credit towards NYS Art Credit for Graduation

Grades: 9 -12 Prereq: None



## Studio Art Digital Media

$\frac{1}{2}$  credit towards NYS Art Credit for Graduation

Grades: 9 -12 Prereq: None



## Studio Art Graphic Design & Animation

$\frac{1}{2}$  credit towards NYS Art Credit for Graduation

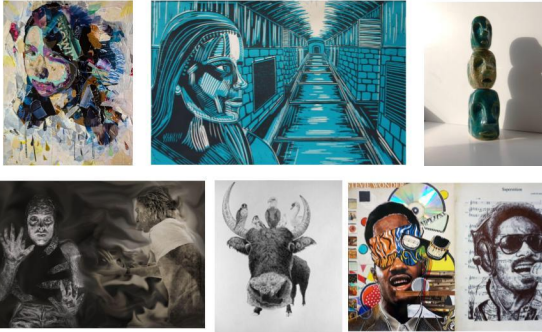
Grades: 9 -12 Prereq: None



# ● “Advanced Studio” leveliiiii. classes

## Advanced Studio Art Mixed Media

One Semester Grades: 9\*,10,11,12 Prereq: Studio Mixed Media  
(or Department Coordinator Approval)



## Advanced Digital Media

One Semester Grades: 9\*,10,11,12 Prereq: Studio Digital  
Media or Graphic Design



## Advanced Painting & Drawing

One Semester, Grade 9\*10,11,12, Prereq: Studio in P&D  
(or Department Coordinator Approval)



## Advanced 3D Design & Ceramics

One Semester Grades:10,11,12  
Prereq: Ceramics and/or 3D Design & Architecture

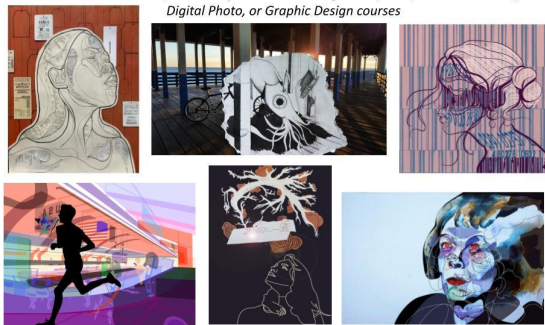


# “AP Studio Art” Level Classes

## AP Studio Art 2D Design

(15 piece sustained investigation portfolio with mixed medium)

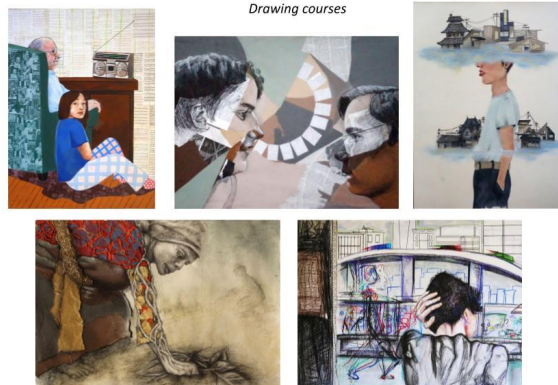
Full Year Grades:11,12 Prereq: A combination of Studio, P&D, Advanced Studio, Digital Photo, or Graphic Design courses



## AP Studio Art Drawing

(15 Pieces sustained investigation drawing portfolio)

Full Year Grades:11,12 Prereq: Some combination of Studio, Advanced Studio, & Painting and Drawing courses



## AP 2D in Digital Media

(15 piece sustained investigation portfolio in digital media)

Full Year Grades:10\*,11,12 Prereq: 1 credit in Photography, Digital Media or Graphic Design courses



No Prereq

## Connections Study 20%

## Art Making Inquiries Portfolio 40%



# Popular Art Electives

## Ceramics

One Semester Grades:10,11,12 Prereq: None



## Yearbook Journalism

Full Year Grades: 11 and 12 (POTENTIAL TWO YEAR COMMITMENT)



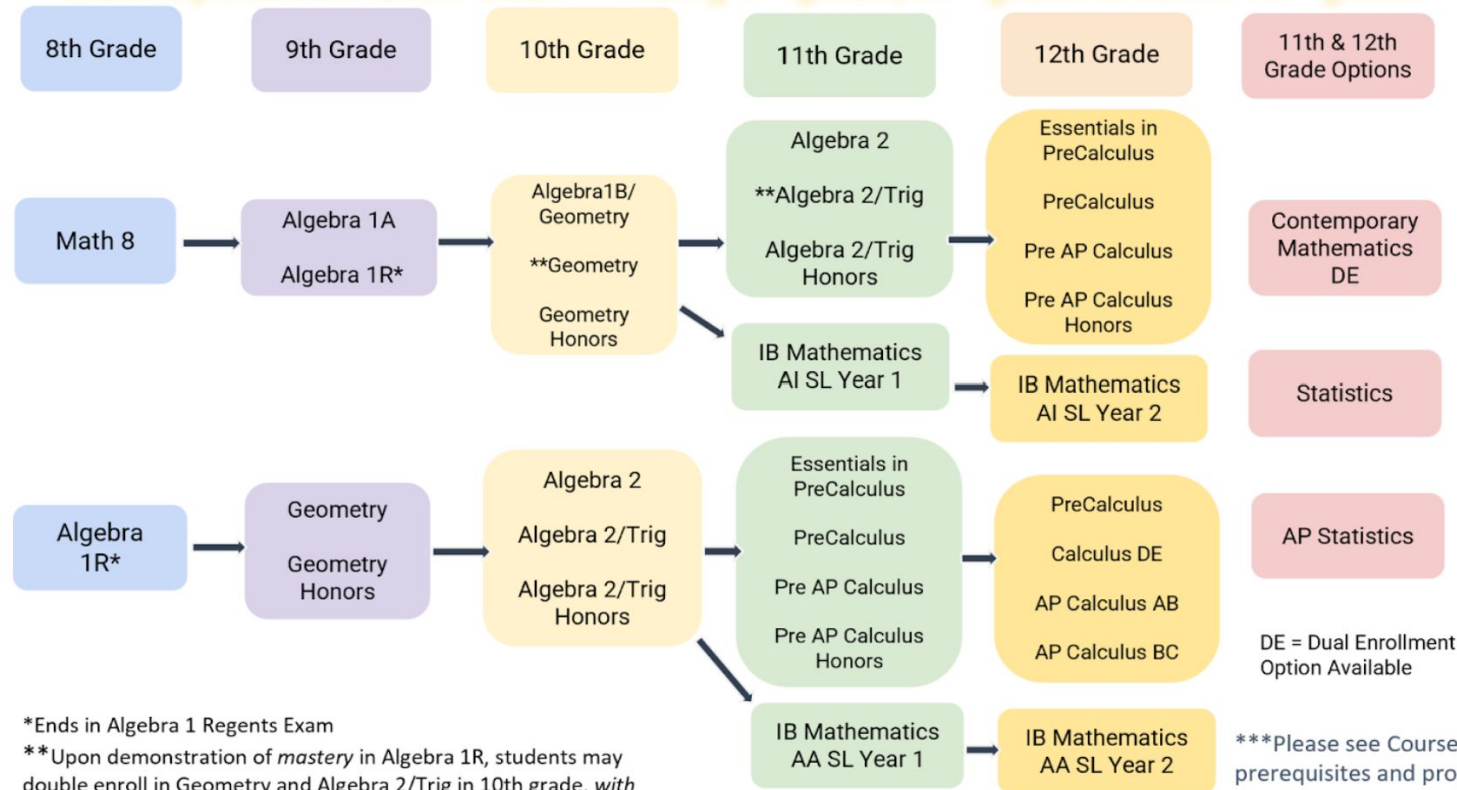


# RHS Mathematics Department

Mrs. Beth Naber

9-12 Mathematics Coordinator

## Math Options for 2026-2027 – Rising 9<sup>th</sup> grade, 10<sup>th</sup> grade & some 11<sup>th</sup> grade



\*Ends in Algebra 1 Regents Exam

\*\*Upon demonstration of *mastery* in Algebra 1R, students may double enroll in Geometry and Algebra 2/Trig in 10th grade, with teacher recommendation

DE = Dual Enrollment Option Available

\*\*\*Please see Course Catalog for prerequisites and program descriptions



# Course Options for 10th Grade

## Currently in Algebra 1:

### **Geometry**

- Comprehensive Geometry Course
- Will integrate algebraic techniques learned in Algebra 1

### **Geometry Honors**

- Recommended to have had an exceptional performance in Algebra 1 (95 or better)
- Advanced Geometry course
- Rigorous and rapid setting
- Will incorporate advanced algebraic skills

## Currently in Geometry/Geometry Honors:

### **Algebra 2**

- Intensive, one-year college preparatory study of advanced algebra
- Builds on topics learned in Algebra 1

### **Algebra 2/Trig**

- Comprehensive course in Algebra 2 and Trigonometry
- Requires a strong command of Algebra 1
- Dense, therefore fast paced

### **Algebra 2/Trig Honors**

- Intensive Honors course that typically follows Geometry Honors
- Advanced Algebra 2 & Trigonometry Course
- Rigorous and rapid setting
- Additional Precalculus topics will be covered



# Honors

In any honors level math class, higher-order thinking skills are stressed in problem solving. There is a substantial exploration of additional related topics at an advanced level. Students must be self-motivated, independent learners.

To be enrolled in any honors level math class, students must:

- Ask complex questions that show he/she understands the material at an advanced level
- Show that they can consistently solve problems in multiple ways
- Have good organization of mathematical work
- Work well independently and in a group



# Music

**Lizbeth Burrow**  
Orchestra



**Band | Band Percussion |**



**Thomas Snowden:**  
Chorus | Show Choir |  
Digital Music 1 and 2  
Acting 1, Acting 2, Acting 3



# Ensemble Music

**L**earn - **Y1**

**E**levate - **Y2**

**A**chieve - **Y3** (Honors)

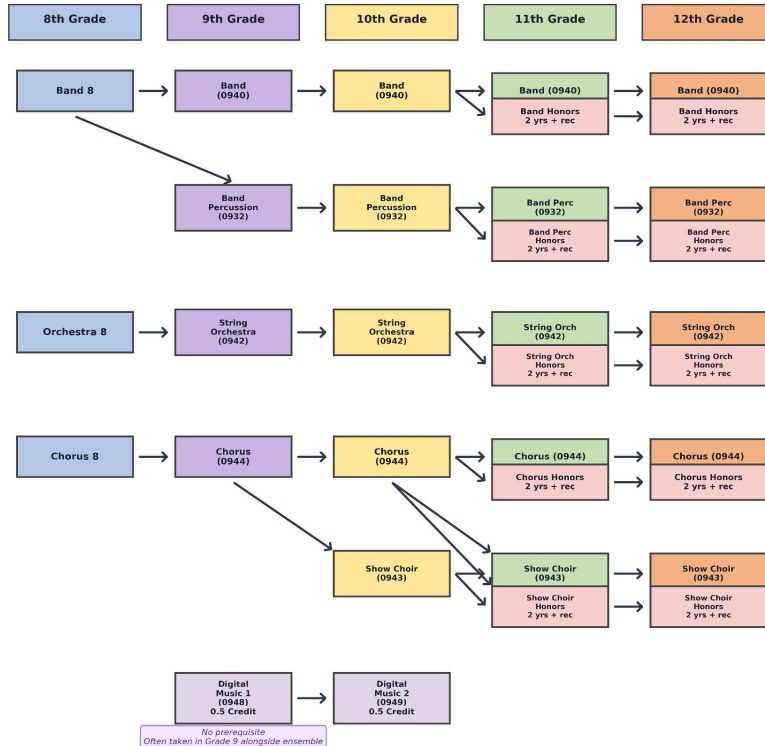
**D**irect - **Y4** (Honors)



# Pathways

## Music Course Pathways

Grade 8, Grades 9-12



HONORS Ensemble (11-12)

2 Years of Ensemble  
+ Teacher Rec

# SOCIAL STUDIES

## PATHWAYS

9TH GRADE

10TH GRADE

11TH GRADE

12TH GRADE

Global History 9

Global History 10

AP World History

U.S. History & Government

AP U.S. History

AP U.S. Government and Politics

AP Macroeconomics

Economics 12  
(1 Semester)

Participation in Government  
(1 Semester)

### Electives

Introduction to Psychology (10th, 11th, or 12th) [1 Semester]

AP Psychology (11th or 12th) [Full year course]

IB Business Management (2 year course; 11-12th grade; fulfills Economics graduation requirement)

IB Digital Society (1 year course; Diploma Programme students and 12th grade; fulfills Government and Economics graduation requirements)

### Required Courses

- Global History 9
- Global History 10 **or** AP World History
- U.S. History & Government **or** AP U.S. History
- Economics 12 **or** AP Macro **or** IB Business Management **or** IB Digital Society
- Participation in Government **or** AP U.S. Government and Politics **or** IB Digital Society



# GLOBAL 10

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## **COURSE DESCRIPTION**

**Prerequisite:** Global History 9

**Grade:** 10

**Credit:** 1

Global History 10 provides an in-depth study of world history and themes. Grade 10 covers the time-period from 1750 to the present. Class time is devoted to a variety of activities, including discussions, student-centered projects, problem-solving activities, presentations, and simulations. The course emphasizes the development of such skills through geographic reasoning, gathering and interpreting evidence, and critical thinking.

### **TEXT**

*World History: Patterns of Interaction* by Beck, et al.

## **COURSE EXPECTATIONS**

- Participation in class discussions and activities
- Daily reading and writing assignments
- Quizzes, tests, and essays
- Research projects

## **THINGS TO KNOW**

All students enrolled in this course will take the NYS Regents Examination in Global History and Geography II in June.

# AP WORLD HISTORY

## COURSE DESCRIPTION

**Prerequisite:** Global History 9 & Teacher Recommendation

**Recommendation:** Teacher recommendation will take into consideration student performance in Global History 9 and student's score on a World History benchmark exam

**Grade:** 10

**Credit:** 1

AP World History is a college-level history course that helps prepare students for the Advanced Placement World History exam and the NYS Global History Regents exam. Students pursue an in-depth study of global history (Europe, North America, South America, the Caribbean, Asia, the Middle East, and Africa) from the post-classical era (1200 CE) to the present. There is a strong emphasis on analytical thinking and writing in this course. By examining primary and secondary sources, students develop greater understanding of the evolution of global societies.

### TEXT

*Traditions and Encounters* by Jeremy Bentley and Herb Ziegler.

## COURSE EXPECTATIONS

- Participation in class discussions and activities
- Daily college level text reading outside of class (traditionally a minimum of 60 minutes for many students),
- Historical argumentative based writing assignments, stimulus based questions (SBQ), Document Based Questions (DBQ), and Long Essay Questions (LEQ)
- Research projects

## THINGS TO KNOW

- All students must complete an extensive summer assignment prior to the course start date.
- Successful completion of this course will earn students NYS Regents credit for Global History. All students enrolled in this course will be required to take the Global History Regents Exam in June.
- All students will be required to take the Advanced Placement exam in May.

# IS AP FOR ME?

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## Would you answer “YES” to the following questions?

- Are you interested in world history?
- Do you enjoy reading?
- Do you read in your free time, and select your own books to read in addition to assigned texts?
- Can you draft essays independently?
- Can you research and understand conflicting viewpoints of complex events?
- Do you revise your writing and are you open to constructive feedback? Do you seek out help when you need it?
- Are you actively involved in classroom discussions?
- Is your Social Studies grade in the “A” range or “B+” range?

# INTRODUCTION TO PSYCHOLOGY

## COURSE DESCRIPTION

**Prerequisite:** None

**Grades:** 10, 11, 12

**Credit:** ½

This half-year course offers a broad overview of psychology, the study of human behavior, and mental processes. Particular emphasis will be placed upon the brain, abnormal psychology, and social psychology. The course will apply psychological concepts to other fields and disciplines, including ethics, law, health, and education. **Please note, this course is not a prerequisite for the AP Psychology course.** In fact, it is intended to provide an alternative to students who are seeking exposure to psychology in a less rigorous setting.

## **TEXT**

Various works, both texts and shorter essays and articles.

## COURSE EXPECTATIONS

- Participation in class discussion
- Weekly current event assignments
- Debates, group projects, and individual research projects

## THINGS TO KNOW

- **Please note, this course is not a prerequisite for the AP Psychology course.** It is intended to provide an alternative to students who are seeking exposure to psychology in a less rigorous setting
- A focus on metacognitive self-reflections and encouraging an intrinsic motivation to learn

# RHS SCIENCE DEPARTMENT

## Rye High School Science Pathways

**8th Grade**

MS - Earth & Space Science or HS - Earth & Space Science (Accelerated)

**9th Grade**

Life Science: Biology (Regents or Honors)

**10th Grade**

Chemistry  
Honors

Chemistry

**Additional Elective Course**

Science Research (10-12) two or  
three year program

**11th & 12th  
Grades**

Physics  
Honors

Physics

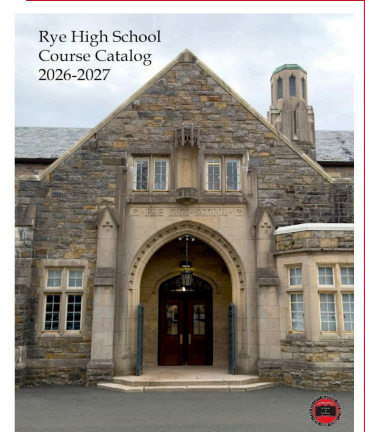
Action  
Physics

Earth & Space  
Sciences

Forensic Science  
IB Environmental Systems & Societies (SL)  
SUPA Forensic Science (for seniors only)

AP Chemistry  
AP Biology  
AP Environmental Science  
AP Physics 1

Rye High School  
Course Catalog  
2026-2027



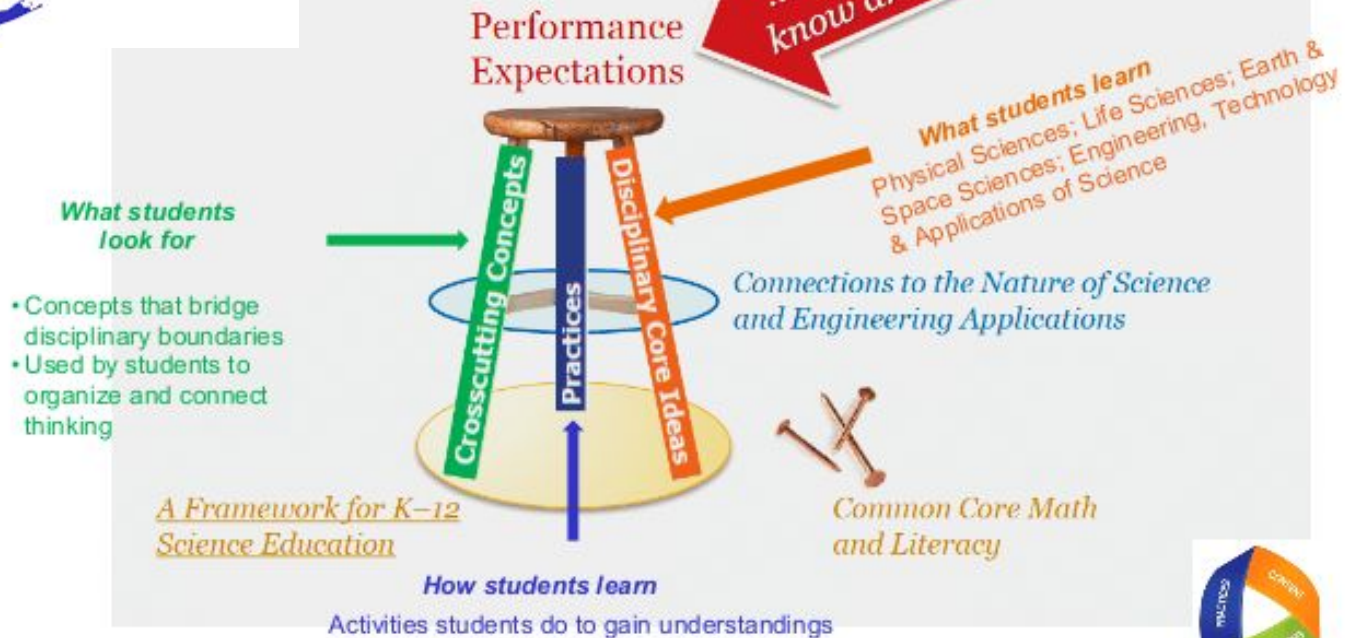


# Science Learning Standards

## Three Dimensional Teaching and Learning:

Refers to the thoughtful and deliberate integration of three distinct dimensions

**"...what students should know and be able to do."**



**Our science lessons in grades K-12 now focus on 3D learning  
which includes Content (Disciplinary Core Ideas),  
Crosscutting Concepts (CCCs), and Science & Engineering Practices (SEPs).**

## Crosscutting Concepts

Patterns

Cause and effect

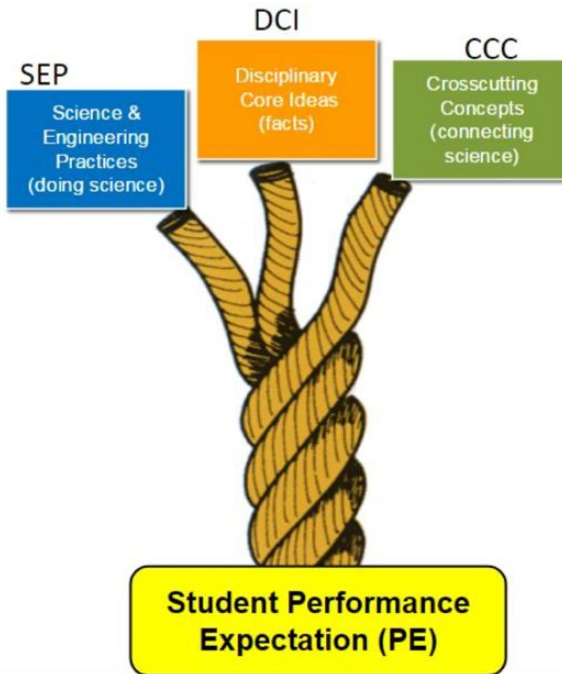
Scale, proportion, and quantity

Systems and system models

Energy and matter

Structure and function

Stability and change



## Science and Engineering Practices

Asking questions and defining problems

Developing and using models

Planning and carrying out investigations

Analyzing and interpreting data

Using mathematics and computational thinking

Constructing explanations and designing solutions

Engaging in argument from evidence

Obtaining, evaluating, and communicating information

# Course Options for Students Going into 10th Grade

## Chemistry

- Prerec: Life Science: Biology
- No Regents Exam
- Meets 8 times in an 8 day cycle
- MS-level math skills are needed in order to be successful in this class
- Moving toward covering the chemistry material outlined in the NYS Science Learning Standards
- Three required NY State Labs will be completed



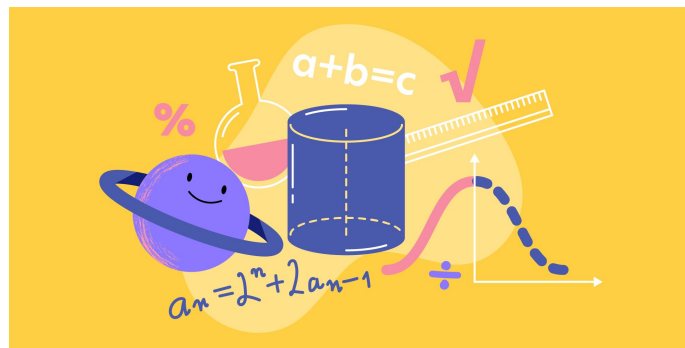
## Chemistry Honors

- Prerec: Life Science: Bio + Teacher Rec
- Rec of 95 or higher in Bio, 90 or higher in Biology H along with 90 or higher in Geometry or 85 or higher in Geometry Honors.
- No Regents Exam
- Meets 8 times in an 8 day cycle
- Much more math
- Covers topics more in depth with opportunity in each unit for honors expansion
- Assessments are cumulative throughout the year
- In class mid-term & final exam
- Three required NY State Labs will be completed

**CONSIDER Science Research as an elective next year! More info on the last slide.**

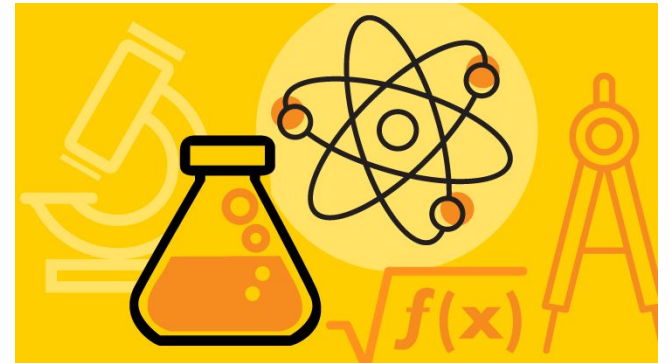
## Math needed in Chemistry

- Basic Algebra needed
- Isolate and solve for X in equations
- Determine from word problems and units which appropriate equations need to be used
- Single step conversions and calculations
- Multi-step problems will be broken down at first (with support tapered off over the year)
- Focus on proportions, ratios, and mathematical relationships
- Mathematical reasoning with pictures and images to explain content



## Math needed in Chem H

- Excellent Algebra skills (including from Algebra 2)
- There is a jump up in terms of math fluency and typical problems completed
- Multi-step algebra problems, determining equations solely based on units and written prompts (this is essential)
- Logs and exponents
- 4-5 step dimensional analysis conversions are common, comparing products for determining yields
- Manipulation of multi-variable equations
- Relationship of variables from math equations can be applied to different graphs to compare the effect that changing variables in provided equations has on expected results
- Faster pacing, more advanced math equations are covered and connected to various content



# Science Research (Science Elective)

- This course is for self-motivated students who want to explore a topic in science in depth. The topic is chosen by the student.
- Students can take this course for up to 3 years starting in 10th grade.
- Students are expected to secure a mentor during or after their first year to help guide their research and help with developing research questions.
- Many students enter competitions such as WESEF, JSHS, Tri-County Fair, STS, Brain Bee, Anato-Bee, Chemistry Olympiad and others based on their interests.
- All students present their work at the Rye Symposium in May.
- Many students conduct their study during the summer time either in a lab or at home. Some students conduct their study during the school year on weekends at the school. Most of the students attend summer workshops or programs to increase their knowledge of the subject material.

There are no prerequisite for this class. It is an elective for students in grades 10-12 and would be taken in addition to another science class.





Computer Science & Engineering  
Dr. Kaitlyn Sassone  
Director of Technology/Department Coordinator

# Computer Science



**Computer Science Essentials**  
**Semester Course**  
**9th - 12th**

**Cybersecurity**

**Semester Course**  
**10th - 12th**

**\*AP Computer Science Principles**  
**Full Year Course**  
**10th - 12th**

**\*AP Computer Science A**

**Full Year Course**  
**11th - 12th**

**\* IB Computer Science HL 1**

**Two Year Course**  
**Year 1 11th Grade**

**\*Course:** AP Computer Science Principles  
**Prerequisite:** Computer Science Essentials or successful completion of department placement exam.

**\*Course:** AP Computer Science A  
**Prerequisite:** AP Computer Science Principles or successful completion of department placement exam.

**\*Course:** IB Computer Science HL 2 Year Course  
**Prerequisite:** AP Computer Science Principles or successful completion of department placement exam.

**Course:** Cybersecurity  
**Prerequisite:** No prerequisite

**\* IB Computer Science HL 2**

**Two Year Course**  
**Year 2 12th Grade**



# Computer Science

- **Computer Science Essentials**

- Computer Science Essentials (CSE) is an excellent entry point for new high school computer science (CS) learners. Students who have prior CS experiences will find ample opportunity to expand upon those experiences in this course. All students who take CSE will have many opportunities for creative expression and to hone their critical thinking and computational skills. CSE introduces students to coding fundamentals through the use of text based programming in the programming environment Processing, a flexible software sketchbook and a language for learning how to code. The intentional connections to widely accepted standards will help students gain confidence and reinforce fundamental knowledge needed regardless of a student's ultimate field of study or occupation. CSE will lay the foundation toward life-long success for those who chose to follow a computer science pathway.

- **AP Computer Science Principles**

- AP Computer Science Principles introduces students to the breadth of the field of computer science. In this course, students will learn to design and evaluate solutions and to apply computer science to solve problems through the development of algorithms and programs. They will incorporate abstraction into programs and use data to discover new knowledge. Students will also explain how computing innovations and computing systems, including the Internet, work, explore their potential impacts, and contribute to a computing culture that is collaborative and ethical.



# Computer Science

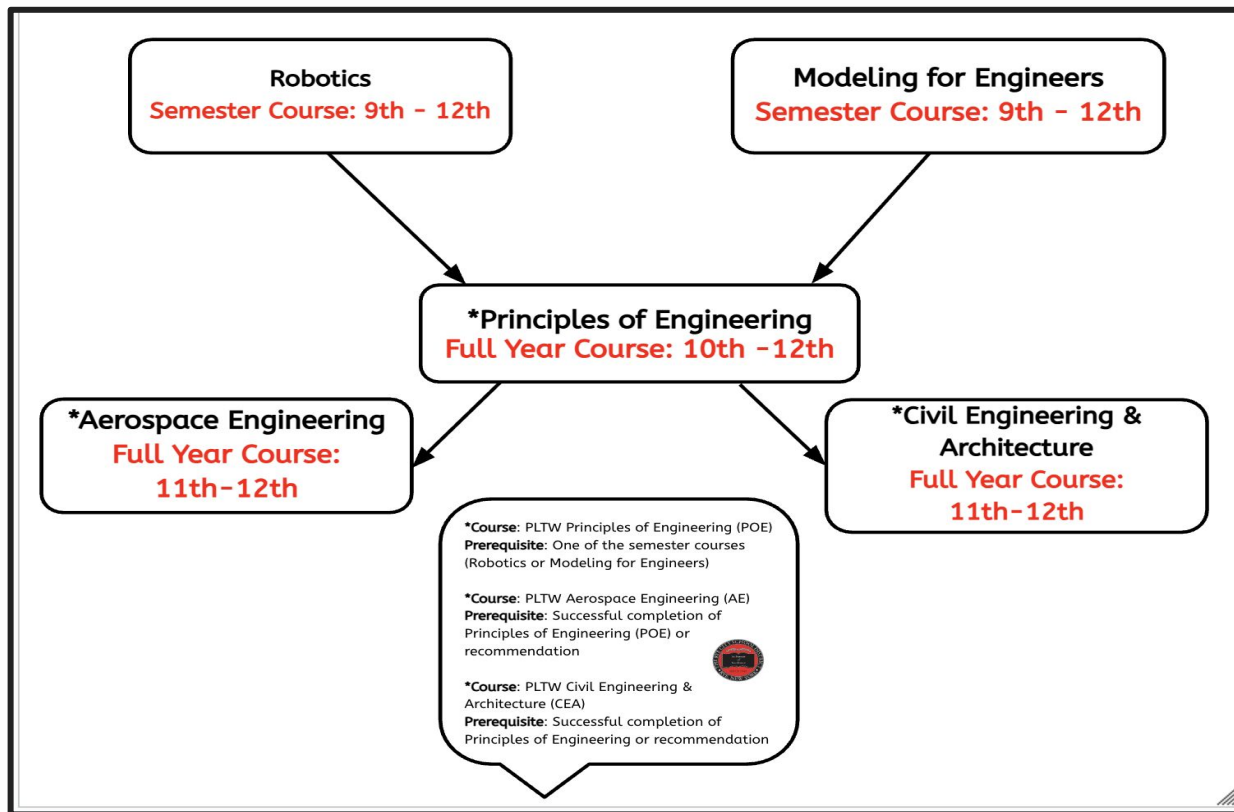
## ○ Computer Science Cybersecurity

- The design of the course exposes high school students to the ever-growing and far-reaching field of cybersecurity. Students accomplish this through problem-based learning, where students role-play and train as cybersecurity experts. Cybersecurity strongly connects to the National Cybersecurity Workforce Framework (NICE Framework or NCWF). Created by the National Institute of Standards and Technology (NIST), the framework identifies standards developed by numerous academic, industry, and government organizations. The framework objectives address topics that span K-12 education and guide learning progressions.

The objectives also incorporate many of the big ideas and learning objectives outlined by the College Board and addressed in AP CSP and AP CSA. In addition, the course integrates Computer Science Teachers Association (CSTA) standards. Cybersecurity gives students a broad exposure to the many aspects of digital and information security while encouraging socially responsible choices and ethical behavior. It inspires algorithmic thinking, computational thinking, and “outside-the-box” thinking. Students explore the many educational and career paths available to cybersecurity experts, as well as other careers that comprise the field of information security.



# Engineering



# Engineering

## ○ Robotics

- This course will involve building robots with VEX structural parts and Robot-C programming language. There will be two projects - one for each quarter of the semester. Robotics will allow students to work in a team environment while designing, building and programming robots to solve a particular problem, while engaging in competition with their class peers.

## ○ Modeling For Engineers

- Students will learn Fusion 360 developed by Autodesk. This course will allow students to learn how to sketch, model, and manufacture items with the 3-D printers. This program is cloud based and will allow students to work from anywhere (with internet access) as long as their computer can run the software. Fusion 360 is utilized by many colleges and universities that offer engineering degrees.

## ○ Project Lead the Way (PLTW) Principles of Engineering (POE)

- Students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, and automation. Students develop skills in problem-solving, research, and design while learning strategies for design process documentation, collaboration, and presentation. Principles of Engineering (POE) is a Project Lead the Way course designed to provide students with an understanding of the field of engineering and engineering technology. The course also includes concerns about social and political consequences of technological changes.

