Science, Math & Technology Departments

Alison Simon, Science Department Chair
Damaris Kinney, Mathematics Department Chair
Dena Maye, Technology Department Chair

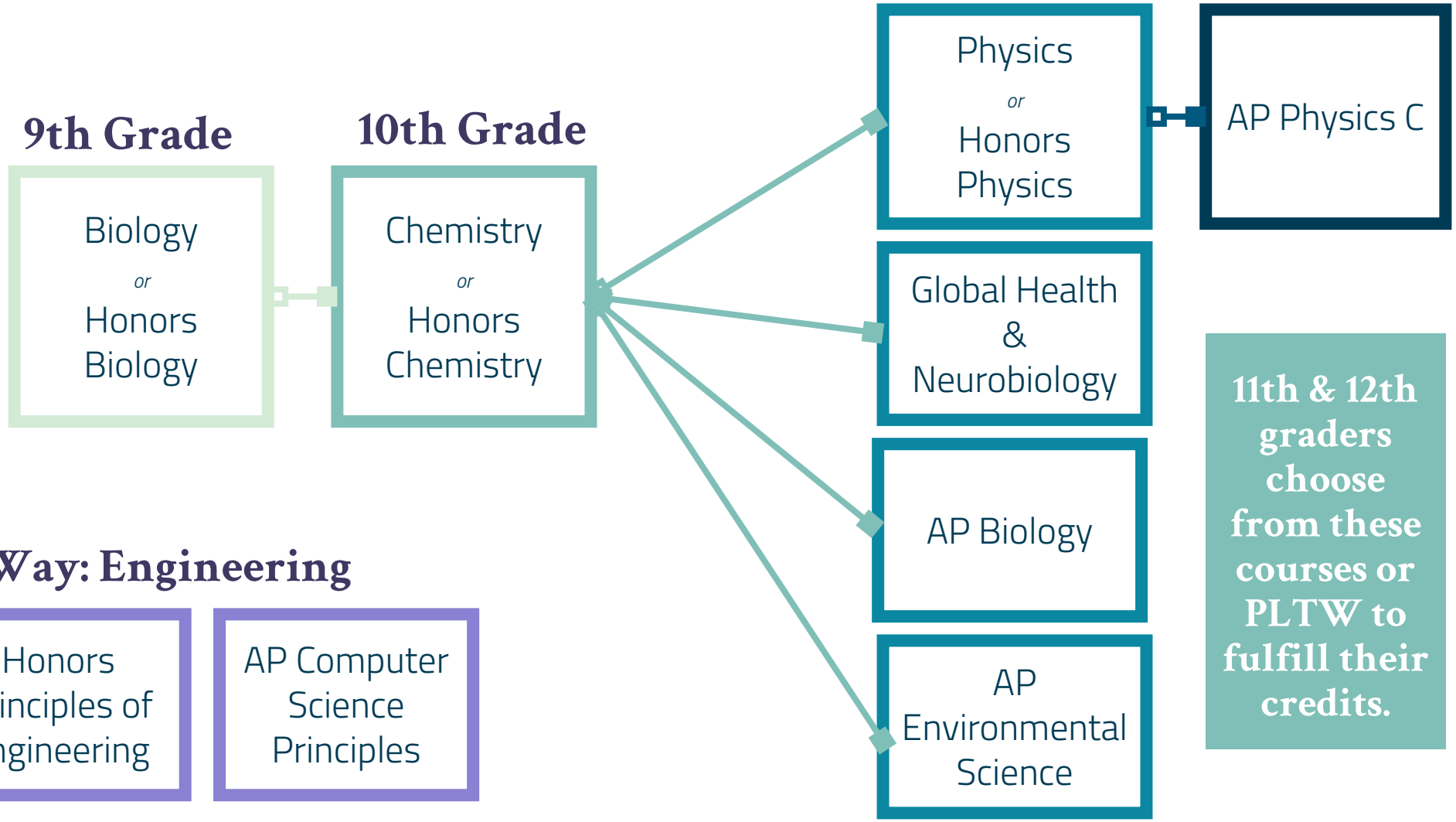
The Academy of the Holy Cross

Science & Engineering

Alison Simon, Department Chair

Wilson Bascom
Maria-Rose Cain
Sally Craven
Ashley Gardner
Dave Geiser
Minie James

Course of Study



Project Lead the Way: Engineering

- Honors Introduction to Engineering Design
- Honors Principles of Engineering
- AP Computer Science Principles

Science @ Holy Cross

Scientific Literacy & Citizenship

- Encourage lifelong learning --science is a body of knowledge AND a *way* of knowing
- Graduate informed, global citizens who pose and evaluate arguments based on evidence

Science Does Not End in the Classroom

- Mentorship from faculty
- Student-led clubs and teams: FIRST Robotics, Science Alliance, Environmental Club, Botany Club, and Physics competitions.
- Science National Honors Society

Project Lead the Way

PLTW Engineering empowers students to step into the role of an engineer, adopt a problem-solving mindset, and make the leap from dreamers to doers.

Since adding PLTW to our curriculum over 50 students have qualified for college credit at Rochester Institute of Technology.

nationally recognized

hands-on

project-based

problem-solving

collaborative

all girls

Mathematics

Damaris Kinney, Department Chair

Barbara Dobbs
Genevieve Kelley
Maureen James
Minie James
Rene Pulupa

"It is clear that the chief end of mathematical study must be to make the students think."

– John Wesley Young
American Mathematician

Mathematics

General Overview

- 4-year requirement
- 15 different courses offered
- AP Calculus AB and BC, AP Statistics
- Multivariable Calculus in partnership with Georgetown Prep

Academic Supports

- Study hall to assist in their studies
- Teachers available before & after school
- Math Lab during lunch and after school
- National Honor Society tutoring

Math Class Placement

- 7th and 8th math grades
- Spring placement test
- HSPT (optional test for 2020)

Freshmen Year Options

- Algebra I or Honors Algebra I
- Geometry or Honors Geometry
- Algebra II with Analysis or Honors Algebra II
- Honors Precalculus

Please see website for math course sequencing.

Mathematics Sequencing Options

Year 1	Year 2	Year 3	Year 4
Algebra I	Geometry	Algebra II Algebra II with Analysis	Precalculus Precalculus with Analysis
Honors Algebra I	Honors Geometry	Honors Algebra II	Precalculus with Analysis Honors Precalculus
Geometry	Algebra II with Analysis Honors Algebra II	Precalculus with Analysis Honors Precalculus	Calculus Applications AP Calculus AB or BC AP Statistics
Honors Geometry	Honors Algebra II	Honors Precalculus	Calculus Applications AP Calculus AB or BC AP Statistics
Algebra II with Analysis	Precalculus with Analysis Honors Precalculus	Calculus Applications AP Calculus AB	AP Calculus BC AP Statistics
Honors Algebra II	Honors Precalculus	AP Calculus AB or BC	AP Calculus BC AP Statistics Multivariable Calculus*
Honors Precalculus	AP Calculus AB or BC	AP Calculus BC AP Statistics Multivariable Calculus*	AP Statistics Multivariable Calculus*

Technology

Dena Maye, Department Chair

"To me programming is more than an important practical art. It is also a gigantic undertaking in the foundations of knowledge."

—*Grace Hopper*

"To create a more diverse and inclusive tech world, we need to inspire and empower the next generation of female role models to pursue and develop their career in technology and become innovators, leaders and entrepreneurs. It's a process and it's not always straightforward. It takes time, action and support. Join us on a mission! Together we can make a difference."

—*Anna Radulovski, Founder & CEO of Coding Girls*

Technology

1 semester credit required for graduation

Year Courses

AP PLTW Computer Science Principles
Yearbook

Semester Courses

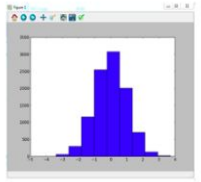
Tech Concepts
Intro to Computer Programming
Multimedia Journalism

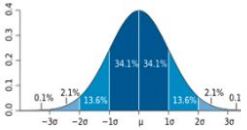
Extracurricular

Programming / Robotics Team

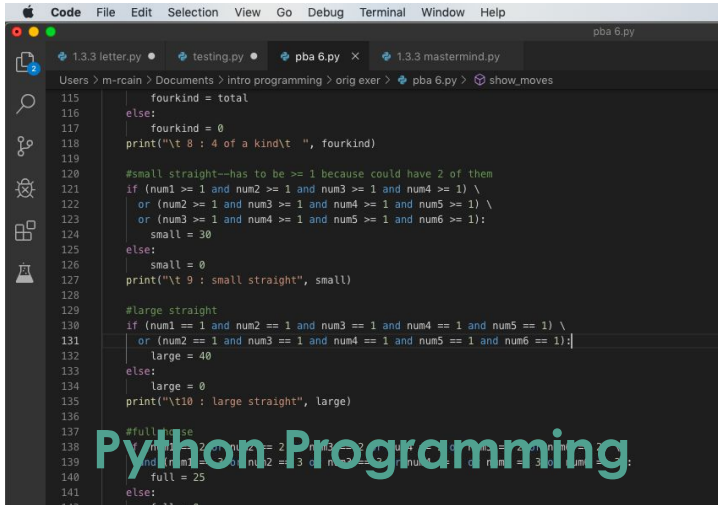
Yearbook

AP PLTW
Computer Science Principles



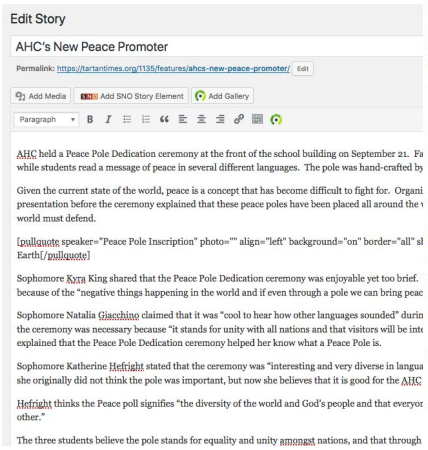


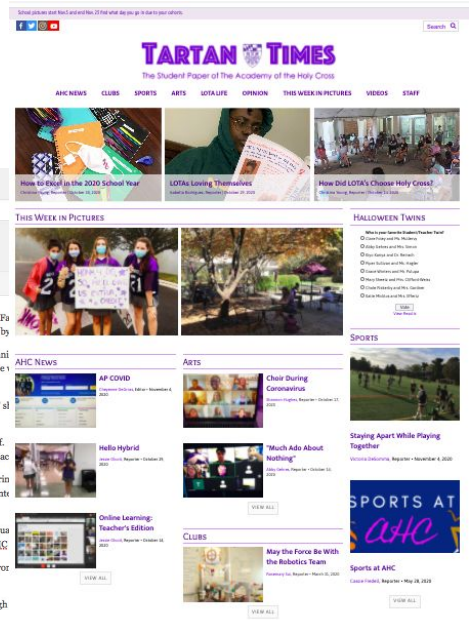
You have just made *Python* pick 10,000 random numbers from a norı distribution (the "Bell" curve) and plot them in a histogram! Before di into the power that the *Python* libraries will give you, you'll want to le the basics of the language. As you begin to learn *Python*, you'll recognize some familiar elements from languages that we have usec the past as well as some new ones. After you learn a bit of one text-based programming language, learning other languages is much eas



Python Programming

Multimedia Journalism

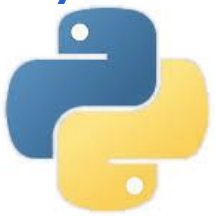


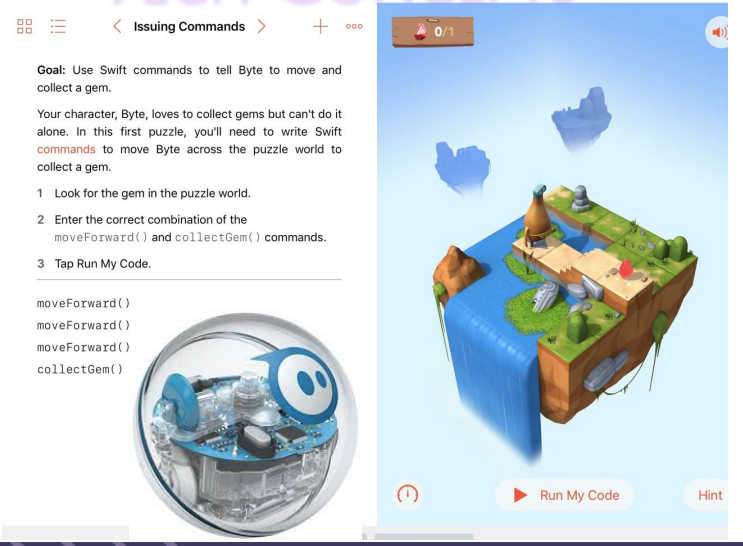


Intro to Programming

```
#keep asking for scores as long as there's another score
#tally number of scores and total the scores
another_score = "y"
count = 0
total = 0

while another_score == "y":
    score = float(input("Enter score: "))
    count += 1
    total += score
    another_score = input("Do you have another sc

#calculate average and determine grade
average = total / count

if average >= 90:
    grade = "A"
elif average >= 80:
    grade = "B"
elif average >= 70:
    grade = "C"
elif average >= 60:
    grade = "D"
else:
    average = "F"

print("\n" + student + " has a " + format(average, ".1f") + " average which is

another_student = input("\nIs there another student? (y or n) " )
```

Python



Programming

Tech Concepts