

# TJHSST Math-CS Information



Marianne Razzino  
mprazzino@fcps.edu  
Division Manager  
Math Teacher

# Graduation Requirements

- 4 years of high school math, including 1 year of Calculus
- 1 year of Computer Science
- Semester course sequence for courses before AP Calculus  
(New for 2014 – 15 and beyond)

# About Semester Course Sequence

- Rationale
  - Ability to offer all incoming students a consistent statistics foundation
  - Ability to better meet the needs all of TJ students, from building a foundation in Algebra to accelerating through material previously studied
  - Opportunity to get to know the students here at TJ
  - More flexibility overall for students and teachers
- Emphasis on Statistics
  - Skills needed in IBET and in future science courses
  - More time to teach this content to students with hands on activities

# Semester Course Sequence

- Research Statistics
- TJ Math 1 – Coordinate Geometry
- TJ Math 2 – Analytic Geometry
- TJ Math 3 – Algebra 2
- TJ Math 4 – Trigonometry and Applications
- TJ Math 5 – Precalculus

Course descriptions and FAQ can be found on the [TJ website > Mathematics page](#)

# How the Sequence Works

- Students completing Research Statistics in the fall will go to TJ Math 1, TJ Math 2.5, TJ Math 3, or TJ Math 4 unless they were taking RS 1 concurrently with another math class such as TJ Math 4 or AP Calculus.
- Students generally continue through the numbered sequence up to TJ Math 5 and then choose a level of AP Calculus with help from their teacher, counselor, and family.
- Most post-AP Calculus electives require BC Calculus, so students who choose to take AB Calculus might also take BC Calculus the following year.

# AP Calculus AB vs AP Calculus BC

- Both courses are year-long, college level Calculus courses with rigorous problems and plenty of challenge
- AP Calculus AB covers one semester of college Calculus in the year giving more time in class to cover complicated topics and do projects to deepen understanding
- AP Calculus BC covers two semesters of college Calculus in the year meaning much more material is covered and topics are usually only given one day of class time before moving on

# Other Elective Semester Math Courses

- TJ Math 2.5 (elective during spring of freshmen year to get students ready for TJ Math 3)
- TJ Math 6 (bridge between TJ Math 5 and AP Calculus)
- Cryptography
- Research Statistics 2 (completes the AP Statistics curriculum)
- Upper level courses beyond AP Calculus which include Multivariable Calculus, Linear Algebra, Advanced Math Techniques, Differential Equations, Complex Analysis, Probability Theory, Concrete Math

Course descriptions and FAQ can be found on the [TJ website > Mathematics page](#)

# Computer Science Courses

- Foundations of Computer Science (Java)
- Accelerated Foundations of Computer Science (Python and Java)
- Data Structures including APCS A (Java)
- Upper Level Courses
  - Artificial Intelligence I and II
  - Parallel Computing I and II
  - Computer Vision I and II
  - Mobile App Development
  - Web App Development
  - Senior Research in Computer Systems
  - Senior Research in App Development

# Summer 2018 Options

(June 25–July 11; July 12–27)

- Online Honors Geometry for incoming freshmen with Algebra 1 credit
- Research Statistics 1 for incoming freshmen with Algebra 2, Precalculus, or Calculus credit
- **TJ Math 5 for TJ students (not incoming freshmen) who have completed TJ Math 4**
- **TJ Math 6 for TJ students (not incoming freshmen) who have completed TJ Math 5**
- **Foundations of Computer Science for TJ students (not incoming freshmen) who want to complete their required year of CS in the summer**

# Scheduling Considerations

- There is more to consider than just what the next class should be for both Math and CS.
- Students should talk with their teachers, counselor, and family about their overall course load in addition to extracurricular activities and other interests.
- Mental health and wellness are essential to doing their best in class, so they must be considered when choosing courses.
- While school recommendations to repeat a course or take a different course are only recommendations, we make them with the student's best interests in mind.
- Schedule changes will only be considered in special circumstances, so students should not plan to "try out" a class if they are not serious about sticking with it, getting the work done, and asking for help.

# Contact Information

Marianne Razzino

[mprazzino@fcps.edu](mailto:mprazzino@fcps.edu)

Division Manager

Math Teacher