

# Pathway: Information and Computer Science Technology

## Career Cluster: Science, Technology, Engineering, Arts, and Mathematics

Recommended Course Plan	Required Core Science and Mathematics Courses	Information and Computer Science Technology Pathway	Occupations Related to this Pathway
<p>4 years English Language Arts            4 years Social Studies            4 years Science            4 years Mathematics            4 years World Languages            4 years Physical Education/Health            1 year Visual/Media/Performing Arts            1 year Business/Practical Arts            1 Semester Financial Literacy            Freshman Advisory</p> <p>Note: The career pathways are suggested courses based on career interest. Students are not locked into one pathway and may select any course as long as they have met all co-requisites and prerequisites.</p>	<p>Biology            Algebra 1/Geometry/Algebra 2</p> <p style="text-align: center;">↓</p> <p>Chemistry            Geometry/Algebra2/Pre-calc</p> <p style="text-align: center;">↓</p> <p>Physics            Algebra 2/Pre-calc/Hon Calculus</p>	<p>(9,10,11)            Computer Programming and Design            Honors Future Problem Solving            Technology and Engineering Principles</p> <p style="text-align: center;">↓</p> <p>(10,11,12)            Animation            AP Computer Science Principles            Computer Modeling            Honors CPS/Honors FPS            Humanoid Robotics            Interior &amp; Structural Design            T<sup>3</sup> Innovations and Inventions</p> <p style="text-align: center;">↓</p> <p>(11,12)            AP Computer Science A            AP Statistics            Statistics</p> <p style="text-align: center;">↓</p> <p>(12)            Data Structures            Honors STEAM Capstone:            Research/Internship</p>	<p>Applications Analyst,            Applications Engineer,            Business Analyst, Computer Engineer, Data Modeler, Data Science, Game Developer, Operating System Designer/Engineer, Program Manager, Programmer, Programmer Analyst, Project Lead Software Applications Specialist, Software Applications Tester, Software Design Engineer, Systems Administrator, Systems Analyst, Test Engineer, Tester, Account Manager, Applications Integrator, Call Center Support Representative, Customer Service Representative, Data Systems Designer, Database Administrator, Database Analyst, E-Business Specialist, Help Desk Specialist, Information Systems Architect, Instructional Designer, Maintenance Technician, PC Support Specialist, PC Systems Coordinator, Product Support Engineer, Support Engineer, Systems Analyst, Technical Communicator, Testing Engineer</p>



## Career Pathway: Information and Computer Science Technology Authentic Real-life Experiences

Mahwah High School offers a variety of co-curricular opportunities to students to expand their knowledge and understanding outside of the academic classroom. Information and Computer Science Technology Pathway students will have the opportunity to participate in unique project-based learning opportunities that develop problem solving, technical, and teamwork skills.

### Co-curricular Opportunities

#### **Bergen County Mathematics League**

Mathematics League promotes the enjoyment and study of mathematics by organizing contests. Math contests give students an educationally enriching opportunity to participate in an academically oriented activity and to gain recognition for mathematical achievement. Our main goal is educational: To promote the enjoyment and study of mathematics by organizing contests.

#### **Coding Club**

The Coding Club gives students interested in computer programming an opportunity to improve and exercise their skills outside of school and compete with students in their classes. Participants are given two programming problems each month, which they must solve by the end of the month.

#### **FIRST Robotics – Robo T-birds Team 1672- [www.firstinspires.com](http://www.firstinspires.com)**

*FIRST*® inspires young people to be science and technology leaders and innovators by engaging them in exciting mentor-based programs that build science, engineering, and technology skills that inspire innovation and that foster well-rounded life capabilities, including self-confidence, communication, and leadership. Students may earn a varsity letter in robotics, and college scholarships are available

#### **Girls Excelling in Math and Science**

Girls Excelling in Math and Science (GEMS) aims to encourage girls in STEAM environments, including listening to accomplished female guest speakers from various STEAM-related fields, learning more about women’s studies, and exploring different areas of STEAM through hands-on activities.

#### **Science Club and NJ Science League**

The NJ Science League offers interschool competition in Biology, Chemistry, Physics, Earth Science, and Environmental Science. Contests are usually held after school on the second Thursday of the months of January, February, March, and April at the different school campuses.

## Technology Student Association (TSA)

Learning to Lead in a Technical World Fun, engaging competitions throughout the year!

Enhance your STEM skills. The Technology Student Association enhances personal development, leadership, and career opportunities in STEM, whereby members apply and integrate these concepts through intra-curricular activities, competitions, and related programs.

