Computer Science Discoveries- 7th Grade
CS Discoveries is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. As a whole, this course focuses on the visible aspects of computing and computer science, and encourages students to see where computer science exists around them and how they can engage with it as a tool for exploration and expression. The students will collaborate on projects to present to the class as well as learn about Web Development within the CS Discoveries Code Studio platform.

Video Editing - 7th Grade
Students in the STEAM Video class will learn how to make and edit movies in IMovie by learning how to use the video making software and app which is available on IPhones and IPads. Student groups will be provided IPads with the IMovie App. They will learn about camera angles and their impact on an audience, editing techniques, how to make story boards, and they will also learn how to write a script. Finally, students will put all this together to make a two to three-minute short film that will include location shots (somewhere on campus), lighting, sound, special effects and dialogue. Many students come into the class with significant knowledge of the IMovie Software and will be allowed to explore more advanced editing features to create more sophisticated films.

STEAM Human-Centered Design and Innovation - 7th Grade
Students will use research-supported LUMA methodologies to solve real world problems, such as space redesign and social justice issues. Unlike many problem-solving projects, this course does not involve planning projects around one piece of equipment. Instead, students will work through a variety of problems using human-centered methods to put people's needs first. In order to solve the problem, students will design resources that meet these needs.

K'Nex Coding with Micro:bit - 7th grade
In this course students will be working with the BBC Micro:bit and coding using MakeCode and Python. The students will explore the different aspects of working with the BBC Micro:bit, which is a pocket-sized computer that can be coded and has features such as motion detection, a compass, and Bluetooth capabilities, to name a few. The students will collaborate on projects to present to the class.

Science Research/PJAS - 8th Grade
This class will teach students the methods of scientific research, including the treatment of variables, hypothesis testing, the graphical analysis of data, statistical analysis, writing conclusions, and the presentation of research. These skills will be developed as students work individually to conduct their own scientific research on a topic of their choosing. As a culminating project, students will be required to present their research at the regional Pennsylvania Junior Academy of Science (PJAS) competition and the Pittsburgh Regional Science and Engineering Fair (PRSEF). Students who select this course have a great deal of interest in the subject of science, are able to work independently on an extended project, have good organizational and time management skills, and a strong work ethic.

Animation - 8th Grade
This class will teach students to build on the idea of gamification and begin creating their own animations. Using the programming tool, Alice, students can create their own programs in which characters follow commands. These basic programming skills will transfer to other programming languages. They will then harness their creativity and venture into the world of app creation and development.

Steam Competition - 8th Grade
In STEAM Competitions, each nine weeks, the class will focus on a different topic in preparation for high level competitions that students may attend over the course of the school year. The focus of the first quarter will be math. Students will play Equations, work through high level problems, and learn RobotC in preparation for robotics competitions. The second nine weeks will focus on chess, 3D design, and planning for the battery car race. During the third quarter, students will prepare for the fluid power challenge competition, continue working on RobotC, and begin preparing for the Mock Trial. For the final nine weeks, students will continue working on programming and work on a project for the PA Computer Fair or the Pittsburgh Regional Science Fair.

What's nExT - 8th Grade
In this course, students will work through a series of modules based on the following topics: Mobile Learning, Online Presence and Collaboration, Digital Storytelling, Augmented and Virtual Reality and other Emerging Technologies. Some of the projects completed will include creating webcasts, blogs, vlogs, wikis, working with Augmented and Virtual Reality, tools for Digital Storytelling, and learning how to screencast.

Robotics - Grades 9-12
This course will emphasize the use of robotics to teach basic and advanced problem-solving techniques and programming that requires the integration of math and science skills. Students will be introduced to the easyC programming language. Students will also learn to build robots and write programs to enable the robots to complete a variety of challenges.
Students will be following the Autodesk's VEX Robotics Curriculum, which provides resources for the delivery of a pre-engineering design course in Robotics and computer-aided design. Students will use the software program called Autodesk Inventor to design and create drawings of multiple robotic parts. Autodesk's VEX Robotics Curriculum also incorporates the principles of STEM education into each unit and maps them directly to U.S. & National Academic Standards. The STEM Connections support students in acquiring an understanding of the complex and deep interrelationships among science, technology, engineering, and math.
A large part of this course will involve working creatively to solve authentic challenges. Challenges will range in difficulty from simple tasks to multi-step activities that may require days or weeks to complete. The challenges will require students to consider both the physical demands placed upon a robot as well as the programming required to enable a robot to complete the stated tasks. Furthermore, students may also engage in a group effort to complete challenges as part of a regional robotics competition.

Engineering Materials and Processes I - Grades 9-12
Students taking this course learn how to correctly use tools and materials to design and fabricate their own projects. This class will utilize tools and equipment to work with wood, metal, vinyl and screen printing. After a series of mandatory class projects students are encouraged to design and fabricate additional projects of their choice. Above all, they will learn safe work habits and craftsmanship.

Engineering Materials and Processes II - Grades 9-12
Students taking this course will build upon basic skills learned in the tech ed engineering materials and processes I course. This course will also cover basic construction and mechanical systems. They will work on more advanced group projects and develop responsible work habits.

Publishing - Grades 10-12
This course is designed to get students involved in producing the yearbook. Students work collaboratively to make theme and design choices, as well as meet essential deadlines. They will have hands-on experience in the field photographing all important events during the school year and promoting print advertisements to help meet budget limits. They also take active roles in marketing the publications to the student body. The final products are truly yearbooks made by the students for the students of Riverview. Students must be able to dedicate time outside of the regular classroom period. Maximum enrollment of 16 students.

Computer Science I - Grades 9-12
"Computing is not about computers anymore. It is about living."-N. Negroponte. What careers are you interested in…possibly STEAM (Science, Technology, Engineering, Art, Mathematics) or Communications, Business, or even Education?   No matter what you decide, computers will be a part of it! The purpose of this course is to provide students with basic software development (coding) skills involving graphics and object-oriented programming. Students will learn to create software in an interactive environment to analyze problems, develop algorithms, design interfaces and produce code. This course is a prerequisite course for AP Computer Science II and AP Computer Science Principles.

AP Computer Science II – Grades 10-12
This course may be used as a Math or Science elective. This class is designed for the student who is interested in advancing his/her computing knowledge. Emphasis is placed on the in-depth study of algorithms in an object oriented programming environment. The student will be involved in the analysis and development of code and the logical thought processes involved in solving higher-level problems. At the completion of this course, students are encouraged to take the AP Computer Science A exam.

AP Computer Science Principles – Grades 10-12
This course focuses on creative problem solving and real-world applications to better prepare students for college and/or a career. Students will be introduced to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP CSP also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. At the completion of this course, students are encouraged to take the AP Computer Science Principles exam.

E-commerce and Web Page Design - Grades 10-12

This semester course will provide students with the knowledge and experience to create eye pleasing, content-rich web pages using the popular and widely-used web design software, Dreamweaver. By learning the major capabilities of Dreamweaver, HTML, and Flash, students will be able to produce professional websites. This interactive course will increase student's PC knowledge for college and beyond.

Advanced STEAM Research – Grades 9-12

Advanced Stem Research is a yearlong project-based course. The primary purpose of this course is to provide students an opportunity for firsthand, supervised research in science, technology, engineering, and mathematics fields. Research is defined as mentored, but self-directed, work that enables individual students to collaborate with faculty members to explore an issue of interest to them, to design and conduct in-depth investigation/experiment, and to communicate their results to others. Students will be required to present their research at the regional Pennsylvania Junior Academy of Science (PJAS) competition and the Pittsburgh regional Science and Engineering Fair (PRSEF). In addition, students will develop their ability to read and interpret scientific journal articles as well as explore and, as time permits, conduct some of the more influential science experiments throughout history.