

# NHS Course Selection for 2019-2020 School Year

## Elective Offerings for Future Juniors

### ❖ **Honors Anatomy & Physiology** – 5 Credits – *MUST HAVE PASSED OR CONCURRENTLY TAKING PHYSICS*

The Anatomy and Physiology course is designed for the student interested in the study of medical science as well as those interested in the study of structure and function of the human body. The course stresses the study of human body systems and their basic units of structure and function. There is a strong emphasis on laboratory work including dissection. Dissection is fundamental to the study of Anatomy and Physiology. As such, is a necessary part to this lab course. There will be significantly higher academic expectations of students in honors level courses. The College-Prep Anatomy course is only available for seniors.

**Prerequisite:** *passed or concurrently taking Physics*

### ❖ **Intro to Computer Programming** – 5 Credits (*offered at Honors level*)

This course is an introduction to computer programming. The class will introduce variables, operations, and data structures using Java. Basic concepts of operations systems, interfacing with networks, and internal workings of computers will also be covered. Students will develop skills, confidence, and experience writing programs in order to accomplish useful tasks. Course will prepare students for AP Computer Science.

### ❖ **Engineering** – 5 Credits (*offered at Honors or CP level*)

This full-year course will combine technology, engineering, and mathematics standards into an engineering capstone project very similar to the Mars Pathfinder Rover Project. In completing this capstone project, students will study and apply concepts in a number of disciplines: science, technology, engineering, and mathematics. The course focus is that of real-life applications for science, technology, engineering, and math. Smaller student projects during the course may include a catapult, and robotic arm. There will be significantly higher academic expectations of students in honors level courses.

### ❖ **Computer Aided Drawing (CAD)** – 5 Credits (*offered at CP level*)

This is a yearlong course designed to acquaint students with the basic skills, and computer aided drawing (CAD) procedures used by all industries in communicating manufacturing information. The primary focus will be on two dimensional multi-view drawing using computers, and traditional drawing tools—including geometric constructions, interior details, dimensioning, auxiliary views, and model rendering (pictorial drawing). This CAD course is intended for students with engineering, architectural or other technical college/profession ambitions. The course will also provide an excellent background for any other Science or Technology Education elective. **Prerequisite:** *Intro to Technology or teacher approval*

### ❖ **Robotics** – 5 Credits – *MUST HAVE PASSED ENGINEERING OR PHYSICS (offered at the Honors or CP level)*

The Robotics course covers the practice, technique, and theory behind mobile robotic systems. Topics in the first half of the year include simple robotic designs, sensors, motors, gears, feedback control systems, and cybernetics. Advanced sensing techniques, microprocessors, construction techniques, serial communications, and data collection, will be covered in third and fourth terms. Each student will design and create a robot that makes everyday tasks easier for an individual with physical disabilities. There will be significantly higher academic expectations of students in honors level courses. **Prerequisites:** *passed Engineering or Physics*

### ❖ **Photography** – 5 Credits (*offered at Honors or CP level*)

This course is designed to introduce students to the basics of digital photography and alternative photographic processes. Students will learn technical considerations unique to photographic manipulation: aperture, shutter speed, ISO, exposure, photographic editing software, and various forms of output or final image presentation.. Enrolled students will be responsible for providing their own camera, memory card and USB drive; special circumstances will be taken into consideration. Students are expected to take photograph as homework on a weekly basis. The honors course is differentiated from the college course in the amount of work, the level of expectation, and the grading system.

### ❖ **American Law** – 5 Credits (*offered at Honors or CP level*)

This course is a full year elective for junior and senior students only who want a traditional presentation of American Law. The course surveys the American legal system, the criminal justice system, constitutional law, and civil law. The objective of the course is to prepare students to become more civically engaged. At the Honors level, students must be independently motivated, and will be expected to engage in more intensive reading and writing.

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### ❖ **Sociology** – 5 Credits (*offered at Honors or CP level*)

This full year course, open to juniors and seniors, focuses on the study of society, social institutions, and social relationships. A goal of the course is to make students aware of how sociology applies to many areas of life and how it can be used in day-to-day activities. The study of adolescence, deviance, gender and race will allow students to explore the many areas of sociology. Students selecting this course for honors credit will be required to take more extensive written exams and do an additional project commensurate with the awarding of honors credit by the instructor.

### ❖ **Psychology** – 5 Credits (*offered at Honors or CP level*)

This full year course, open to juniors and seniors, focuses on various aspects of human behavior. Emphasis will be on student preparation for difficult decision-making that will take place during their lives. The study of the science of psychology, the aspects of research, the human brain, sensation and perception, consciousness and abnormal psychology will allow students to explore the many areas of Psychology. The honors level course in addition to the Psychology curriculum will include a six page research paper, additional and more challenging essays on exams, additional analysis of work done by the class.

### ❖ **Greek Mythology** – 5 Credits (*Offered at Honors or CP level*)

This course will introduce students to the major myths of Greek antiquity, including the works of Hesiod (origin of the gods) and Homer (the Trojan War and Odysseus), stories of heroes (Hercules, Jason, Perseus, Theseus), the “nasty women” (the Gorgons, the Fates, the Furies, the Sirens), the “nice women” (the Muses, the Graces), the lovers (Orpheus and Eurydice, Cupid and Psyche), the haters (Apollo and Daphne, Echo and Narcissus) and monsters and beasts (the children of Echidna *et alt.*).

### ❖ **Concert Chorale** – 5 Credits (*offered at Honors or CP level*)

The Concert Chorale is an advanced level mixed (SATB) vocal ensemble that performs a wide variety of choral repertoire. Personal musicianship skills developed through participation in this ensemble include intermediate to advanced singing techniques, music literacy, music theory, ear training, and performance experience. This class will require participation in rehearsals and performances both during and after school. Participation in Concert Chorale is determined by audition and / or recommendation of the choral director. With the approval of the choral director, students may elect to take this class for honors credit. Students who elect to take this class for honors credit will be required to take private voice lessons and perform in a minimum of one class recital.

### ❖ **Concert Band** – 5 Credits (*offered at Honors or CP level*)

The Concert Band is an intermediate level instrumental ensemble that performs a wide variety of concert repertoire. Personal musicianship skills developed through participation in this ensemble include beginning to intermediate level playing techniques, music literacy, music theory, ear training, and performance experience. This class will require participation in rehearsals and performances both during and after school. With the approval of the band director, students may elect to take this class for honors credit. Students who elect to take this class for honors credit will be required to take private instrumental lessons and perform in a minimum of one class recital.

### ❖ **The History of Rock & Roll** – 5 Credits (*offered at CP level*)

An elective course designed for students interested in learning about the development of popular American music. Students will listen to and analyze examples of music, starting with the folk music tradition and tracing it’s evolution through classic rock and up to today’s “top 40”. Current or previous study of an instrument or voice is not necessary.

### ❖ **Intro to Guitar** – 3 Credit Elective Minor (*offered at CP level*)

Students will learn to play guitar and experience a wide variety of musical styles, such as folk, rock, blues, jazz, and country. Personal musicianship skills developed will include right and left hand playing techniques, ear training, improvisation, music literacy, and basic music theory. **\*Students need not own their own guitars. Instruments will be made available through the music department.\***

### ❖ **Exercise Physiology** – 3 Credit (*in class*) or 5 Credit (*hybrid online course*); (*offered at H or CP level*)

This course examines the human anatomical and physiological response to exercise and exercise training. Students who have a passion for exercise science and personal fitness will benefit and enjoy this course. Class time will include classroom instruction as well as time in the fitness center.