

New Local Board Approved Courses Request

Location: James J. Byrnes High School and Byrnes Freshman Academy

Accelerate Program (SC Governor’s School for Science and Mathematics & Clemson University)

Course Name	Level	Credit	Course Code
Biomedical Engineering	Honors	1.0 HS Credit	609950HW
Mechanical and Aerospace Engineering	Honors	1.0 HS Credit	609951HW
Foundations of Engineering	Honors	1.0 HS Credit	609952HW

Course Descriptions:

Biomedical Engineering (Honors)

This course introduces students to the different sub-specialties of biomedical engineering (BME) including bioelectricity, biomedical instrumentation, biomaterials, and biomechanics. Through hands-on labs, design projects, problem sets, and research article review, students explore and experience the engineering design process, problem solving and troubleshooting in the field of BME. Some questions that might be addressed are: “how are electrical signals from the heart measured outside the body?”, “is there a way to design high heel shoes that don’t hurt women’s feet?”, and “how do engineers design heart valves that only allow blood flow in one direction?”

Mechanical and Aerospace Engineering (Honors)

This course introduces students to the fields of mechanical and aerospace engineering. It integrates engineering design, core math and science concepts needed to solve problems related to aerospace and mechanical engineering as well as other engineering disciplines. The course includes historical context and addresses the following topics: statics, thermodynamics, fluid dynamics, materials, and mechanics of flight. Through the use of hands-on labs, design projects, problem sets, and demonstrations students learn how engineers use mathematics and science to design efficient and beneficial devices such as automobiles, power plants, airplanes, machinery, and heating/cooling equipment. Students have opportunities to experiment, calculate, compute, design, and build as they explore and solve problems. Mechanical and Aerospace Engineering

Foundations of Engineering

This course introduces students to the various fields of engineering, the engineering design process, as well as core math and science concepts that encompass all fields of engineering. Additionally the course will examine ethics in engineering and technical communication needed for successful engineering practices. Students will engage in course content through multi-sensory, hands—on activities and computer-based projects in order to fully understand and apply the concepts covered. The course concludes with a capstone engineering design project.

Physical Education

Course Name	Old Number	New Number	Term	Students
Physical Activity – Fall AM	344304CW 344306CW	3499FACW	Fall	All
Physical Activity – Fall PM	344300CW	3499FPCW	Fall	All
Physical Activity – Spring AM		3499SACW	Spring	All
Physical Activity – Spring PM	344301CW	3499SPCW	Spring	All

Course Description:

Physical Activity is designed to improve the overall physical conditioning of student athletes and provides them the opportunity to improve strength, power, agility, and endurance while reducing risk of injury during participation in sports. The major emphasis of this course will be: weight training, cardiovascular activities, and speed improvement drills. This course is offered in both fall and spring. All students enrolled in this class must have prior approval from head coach or PE teacher. This recommendation is subject to change.

Prior Local Board Approved Courses Renewal Request

Subject Area/Department	Course Number	Course Name
Language Arts	309920CW	Film Studies
Language Arts	309930CW	Lang Arts Strat
Mathematics	319901CW	Math Strategies 1
Mathematics	319902CW	Math Strategies 2
Physical Education	3499FACW	Physical Activity - Fall AM
Physical Education	3499FPCW	Physical Activity - Fall PM
Physical Education	3499SACW	Physical Activity - Spring AM
Physical Education	3499SPCW	Physical Activity - Spring PM
Science, Technology, Engineering, and Mathematics	609920CW	Pre Engineering 1
Science, Technology, Engineering, and Mathematics	609921CW	Pre Engineering 2
Support: Instructional Areas	17990500	Literary Arts 5
Support: Instructional Areas	17990600	Literary Arts 6
Support: Instructional Areas	27991000	ESL
Support: Instructional Areas	37999110	SCAS A
Support: Instructional Areas	37999120	SCAS B
Support: Instructional Areas	379900CW	Freshman Focus
Support: Instructional Areas	379905CW	Computer Tech Cadet
Support: Instructional Areas	379911CW	Media Center Service Learning
Support: Instructional Areas	379920CW	Leadership BHS A
Support: Instructional Areas	379922CW	Media Center Service Learning
Support: Instructional Areas	379930CW	Leadership BHS B
Support: Instructional Areas	379990CW	Leadership BFA
Support: Instructional Areas	379991CW	Digital Video Production
Support: Instructional Areas	379992CW	Leadership That Works
Support: Instructional Areas	3799N2CW	Newspaper Production 2
Support: Instructional Areas	3799N3CW	Newspaper Production 3
Support: Instructional Areas	3799N4CW	Newspaper Production 4
Support: Instructional Areas	3799Y2CW	Yearbook Production 2
Support: Instructional Areas	3799Y3CW	Yearbook Production 3
Support: Instructional Areas	3799Y4CW	Yearbook Production 4

Subject Area/Department	Course Number	Course Name
Visual and Performing Arts	3599CCCW	Concert Chorus
Visual and Performing Arts	3599M1CW	Band Marching 1
Visual and Performing Arts	3599M2CW	Band Marching 2
Visual and Performing Arts	3599M3CW	Band Marching 3
Visual and Performing Arts	3599M4CW	Band Marching 4
Visual and Performing Arts	3599O1CW	Orchestra Concert A 1
Visual and Performing Arts	3599O2CW	Orchestra Concert A 2
Visual and Performing Arts	3599O3CW	Orchestra Concert A 3
Visual and Performing Arts	3599O5CW	Orchestra Concert B 1
Visual and Performing Arts	3599O6CW	Orchestra Concert B 2
Visual and Performing Arts	3599O7CW	Orchestra Concert B 3
Visual and Performing Arts	3599P2CW	Band Marching Percussion 2
Visual and Performing Arts	3599P3CW	Band Marching Percussion 3
Visual and Performing Arts	3599P4CW	Band Marching Percussion 4
Visual and Performing Arts	459900CW	Band Color Guard 1 A
Visual and Performing Arts	459902CW	Band Color Guard 2 A
Visual and Performing Arts	459903CW	Band Color Guard 3A
Visual and Performing Arts	459904CW	Band Color Guard 4A
Visual and Performing Arts	459905CW	Band Color Guard 1 B
Visual and Performing Arts	459906CW	Band Color Guard 2 B
Visual and Performing Arts	459907CW	Band Color Guard 3B
Visual and Performing Arts	459908CW	Band Color Guard 4B
Visual and Performing Arts	4599T1CW	Rebel Theatre 1B
Visual and Performing Arts	4599T2CW	Rebel Theatre 2B
Visual and Performing Arts	4599T2HW	Rebel Theatre 2B Honors
Visual and Performing Arts	4599T3CW	Rebel Theatre 3B
Visual and Performing Arts	4599T3HW	Rebel Theatre 3B Honors