Physics

ballen@asfa.k12.al.us

This is a math-based physics course. Students will follow a normal high school physics scope/sequence centered on classical mechanics, occasionally using some trigonometry math for calculations. Topics will be presented conceptually and mastered mathematically. Grading consists of 1 exam (15 %), 5-10 quizzes (43 %) and at least 10 classwork/homework grades (42 %), with several writing/reading assignments included, in addition to one or two projects. Each 9-weeks is 40 % of the semester grade, with the semester final accounting for the remaining 20 %. Students may earn exemption for each semester final if they have earned an average of 90 or above in both 9-weeks. There are no extraordinary classroom supplies requirements. Students are expected to bring some type of electronic device to class each day (please notify me of any reasons that may prevent this). Laptops are not required; students may use the computer classroom or library as necessary if they do not have a laptop with them. All classroom policies/rules/etc are handled as needed. Although classroom assignments are always posted on googleclassroom, along with due dates, and assignments that are uploaded via googleclassroom are graded and returned via the website, always check INOW for verification of completed assignments and grades. Some retakes on assignments are possible, though handled differently for each assignment.

The following is a list of topics by semester. The scope/sequence is subject to change.

1st semester	2nd semester
Basic motion topics: distance & time calculations, 1d motion, velocity & acceleration topics, inertia, forces & radiation activities: crash some cars, dry ice, egg toss, parachuting, eating candy, *The Farthest - Voyager in Space* documentary	**The Exotic Sciences** topics: relativity, quantum mechanics, Einstein's equation, nuclear power activities: understanding memes, building an atomic bomb, *Interstellar* movie
More Advanced Motion topics: kinematic equations, 2d motion, centripetal/angular force, Newton's laws activities: group missile launches, ball tosses; *First Man* movie	**Sound** topics: frequency calculations, calculation of sound speed, Doppler effect, resonance, harmonics, activities: breaking glass, karaoke group song, playing guitar/violin
Optics & electricity topics: refraction & reflection, transparency, circuits, color, static electricity, activities: refractive photography, painting, frizzy hair	**Ethics in Science** topics: various activities: *tbd*; choice of movie
Special Topics *(tbd)*	**Special Topics** *(tbd)*

Welcome to the 2020 school year for the Alabama School of Fine Arts. It is an honor to teach students that have pursued and developed their artistic interests to the degree necessary to receive an invitation to study here. I hope you have a fabulous year!