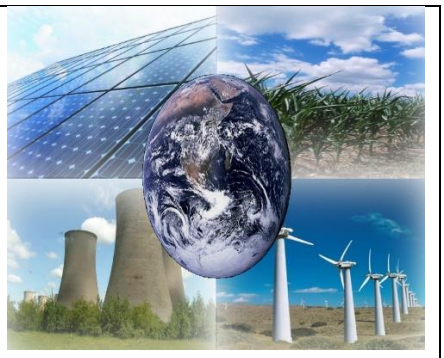
Brookwood High School Energy Program

A Career and Technical Education Pathway with Integrated Physics

What: Participating students will have the opportunity to learn and apply physics through an exploration into energy sources and power systems.
Who: Open to rising 8th graders
When: 1 elective period in 9th grade and 1 core period in 11th grade
How: Students can receive 4.0 total credits through participation in this program for the full 3 years. The earned credits include 3 Career & Technical Education (CTE) elective credits and 1 core Physics. The Physics concepts will be investigated through project-based experiences that link to the CTE content.



8th Grade Year

- Full year of Foundations of Energy worth 1.0 CTE elective credits
- Builds a foundation of understanding the role of energy in the world and its applications for society

9th Grade Year

- Full year of Appropriate & Alternative Energies (AAE) plus Semester 1 of High School Physics, taught in one class period.
- Students will earn 1.5 credits total, including 1.0 CTE elective credits for the AAE and 0.5 science credits for the Physics (the first half of the Physics course required for graduation).
- This course will be considered an elective in the schedule. Students are expected to still take a separate Biology course (or Chemistry for students who take Biology in the 8th Grade).

Topics Include	
AAE	Physics
○ Renewable and nonrenewable energy sources ○ Alternative energy sources ○ Regional and global implications of alternative energy systems (economic, environmental, and sustainability issues) ○ Nuclear power's relevancy and positive/ negative impacts ○ Future trends of energy, power, and transportation	○ Mechanics ○ Forces ○ Work and Energy ○ Momentum

11th Grade Year

- *(During the 10th grade year, students will take their standard Chemistry class and no class within the Energy Pathway Program.)*
- Full year of Energy & Power Technology (EPT) plus Semester 2 of High School Physics, taught in one class period.
- Students will earn 1.5 credits total, including 1.0 CTE elective credits for the EPT and 0.5 science credits for the Physics (the second half of the Physics course required for graduation).

Topics Include	
EPT	Physics
○ Electrical power systems ○ Mechanical power systems ○ Fluid power systems	○ Electrostatics and Electric Current ○ Magnetism ○ Waves, Sounds, and Optics ○ Nuclear Energy