Advanced Technology Academy

Applied Technology 2006 -2007
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Course Outline

Description

This is a physical science course that focuses on how science concepts are applied and used in everyday situations. The first half of the course is dedicated to educating students about physical science using WorkKeys Applied Technology as a basis. The second half of the course involves FordPAS Module 12 "Energy for the Future." In this module students will work on many group projects concerning energy.

- Motion
  - Objects that move are subject to various patterns that govern how they can move. These patterns include such things as gravity and momentum
- Energy
  - Energy can take many different forms and is freely exchanged in the world around us.
- Heat and Temperature
  - Heat and temperature changes affect all natural processes in the world around us, including the movement of air and water. These changes and the science behind them are investigated both in a classroom setting and in a group setting in Module 12.
- Electricity and Magnetism
  - Electricity is studied extensively in this course, covering all aspects from electrical generation, transmission, use in devices, and general behavior.

Objectives

Students will

- Study the patterns and principles of the motion of objects and explain how moving objects interact.
- Describe and predict energy transformations in everyday machines.
- Explain how heat is transferred in ordinary situations.
- Investigate the properties of electricity, electrical generation, storage and discuss practical solutions to energy problems.
- Conduct research on electrical devices and conduct projects about energy and its future
- Discover the science behind more complex machinery such as refrigerators, televisions, and computers.

Schedule Information

Sep 5 – Sep 8	Syllabus, Procedures, Getting to Know You
Sep 11 – Sep 15	Introduction to Course and Metric System
Sep 18 – Sep 22	Ch 2 Motion
Sep 25 – Sep 29	Ch 2 Motion
Oct 2 – Oct 6	Ch 3 Patterns of Motion
Oct 9 – Oct 13	Ch 3 Patterns of Motion
Oct 16 – Oct 20	Ch 4 Energy
Oct 23 – Oct 27	Ch. 4 Energy
Oct 30 – Nov 3	Ch 4 Energy
Nov 6 – Nov 10	Ch 5 Heat and Temperature
Nov 13 – Nov 17	Ch 5 Heat and Temperature
Nov 20 – Nov 22	Ch 5 Heat and Temperature
Nov 27 – Dec 1	Ch 7 Electricity
Dec 4 – Dec 8	Ch 7 Electricity
Dec 11 – Dec 15	Ch 7 Electricity
Dec 18 – Dec 22	Ch 7 Electricity
Jan 8 – Jan 12	Ch 8 Light
Jan 16 – Jan 19	Ch 8 Light
Jan 22 – Jan 23	Review
Jan 24 – Jan 26	Finals
Jan 30 – Feb 2	Magnetics and Induction
Feb 5 – Feb 9	Magnetics and Induction
Feb 12 – Feb 15	Power Generation and Ch 15 Nuclear Reactions
Feb 20 – Feb 23	Power Generation and Ch 15 Nuclear Reactions
Feb 26 – Mar 2	Complex Machines
Mar 5 – Mar 8	Complex Machines
Mar 12 – Mar 16	Module. 12
Mar 19 – Mar 23	Module 12
Mar 26 – Mar 30	Module 12
Apr 2 – Apr 6	Module 12
Apr 16 – Apr 20	Module 12
Apr 23 – Apr 27	Module 12
Apr 30 – May 4	Module 12
May 7 – May 11	Module 12
May 14 – May 18	Module 12
May 21 – May 24	Module 12
May 29 – June 1	Module 12
June 4 – June 8	Senior Finals

Disclaimer

The instructor reserves to right to change dates to any projects, class work, and exams. Notice will be provided to the students.

Grading Scale

Each quarter your grade will be based on:

Warmups	15 %
Daily Homework	15 %
Problem Sets	30 %
Tests + Notebook Checks	40 %

Your semester grade will be based on:

First Quarter	40 %
Second Quarter	40 %
Final Exam	20 %

Grading Scale:

93 - 100	A
90 - 92	A-
87 - 89	B+
83 - 86	B
80 - 82	B-
77 - 79	C+
73 - 76	C
70 - 72	C-
67 - 69	D+
63 - 66	D
60 - 62	D-
59 Below	F

Grading Procedure and Class Expectations

Daily Warm-up

At the start of each day an activity to be completed within the first few minutes of class will be assigned. These assignments will be turned in immediately at the conclusion of the warm-up time. **Tardiness to class will result in an automatic zero "0" for the warm-up.** Late warm-ups will not be accepted under any circumstances.

Daily Homework

Each day in class you will receive a homework assignment. Daily homework is always due at the beginning of class the next day. These assignments will be checked daily, and it is in the best interest of your grade and learning to complete these assignments. Late daily homework assignments will not be accepted under any circumstances.

Weekly Problem Sets

Each week you will have a set of problems to complete. A problem set will usually be given on a Friday and will be due on Monday. Problem sets are due at the start of the class. These problems will be based on class activities and daily homework problems. The lowest weekly problem set grade each quarter will be dropped. Late problem sets will not be accepted under any circumstances.

Tests

Tests will be given approximately every three weeks or at the end of units, and the dates of tests will be announced in advance. Make every effort to be present on the day of the test. If you are absent the day of a test, you must schedule a makeup upon your return. Test makeups will occur after school. Failure to makeup a test within one week of your return to school will result in a zero "0" for the test!!! **Being absent the day before a test does not mean you do not have to take the test on the scheduled day!!!**