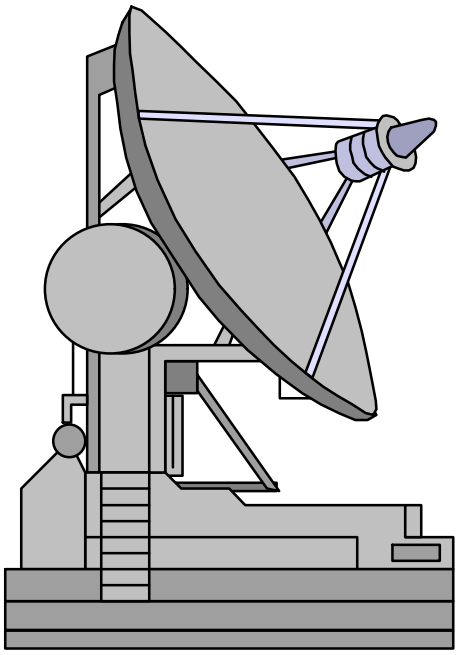
ALCONBURY HIGH SCHOOL

COURSE INFORMATION AND GRADING SYSTEM
2005-2006

Physics

INSTRUCTOR: MR. G



GRADING SYSTEM:
A = 90 - 100 %
B = 80 - 89 %
C = 70 - 79 %
D = 60 - 69 %
F = 0 - 59 %

QUARTER GRADE COMPONENTS:
HOMEWORK/QUIZZES/ACTIVITIES: 35%
LABORATORY REPORTS : 35%
TESTS : 30%

SEMESTER GRADE COMPONENTS: FIRST QUARTER : 45%
SECOND QUARTER : 45%
SEMESTER EXAM : 10%

DAILY CLASS PREPARATION : BE PREPARED FOR CLASS. BRING YOUR BOOKS, WRITING PAPER, PEN OR PENCIL AND ANY HANDOUTS YOU HAVE BEEN GIVEN WHICH ARE NEEDED FOR CLASS WORK. A CALCULATOR IS RECOMMENDED.

ASSIGNMENT POLICY: ALL ASSIGNMENTS ARE DUE AT THE BEGINNING OF THE PERIOD FOR WHICH THEY WERE ASSIGNED. EVERY STUDENT MUST HAND IN HIS OR HER OWN WORK.

MAKEUP POLICY: FOR EVERY EXCUSED ABSENCE AN EQUAL NUMBER OF CLASS PERIODS, WILL BE GIVEN TO MAKEUP THE ASSIGNMENT(S). MAKEUP WORK FOR ASSIGNMENTS NOT TURNED IN FOR REASONS OTHER THAN EXCUSED ABSENCES WILL BE DETERMINED BY THE TEACHER. 10% WILL BE DEDUCTED FOR EVERY CLASS PERIOD THE ASSIGNMENT IS LATE. THIS APPLIES TO LABORATORY REPORTS, QUIZZES, LABORATORY ACTIVITIES, HOMEWORK AND TESTS ONLY. ONLY ONE MAKEUP ASSIGNMENT CAN BE TURNED IN PER DAY PER CLASS. MAKEUP WORK AND LAB REPORTS WILL NOT BE RETURNED UNTIL EVERYONE HAS TURNED IN THAT MAKEUP ASSIGNMENT OR THAT PARTICULAR LAB REPORT.

QUIZ POLICY: IF THERE ARE NO FURTHER QUESTIONS ABOUT A TOPIC DISCUSSED IN CLASS THAT TOPIC MAY BECOME THE SUBJECT OF AND UNANNOUNCED IN-CLASS QUIZ

PROGRESS REPORTS: IF A STUDENT WANTS A PROGRESS REPORT HE/SHE NEED ONLY ASK THE INSTRUCTOR FOR A CURRENT ITEMIZED COMPUTER GRADE REPORT. THIS REPORT WILL BE PREPARED AS SOON AS POSSIBLE. PARENTS ARE ENCOURAGED TO MAKE THE SAME REQUEST. PARENTS WILL BE INFORMED EVERY MIDTERM IF THEIR SON/DAUGHTER IS FAILING OR CLOSE TO FAILING.

LABORATORY POLICY: THE LABORATORY SAFETY CONTRACT MUST BE READ AND SIGNED BY THE STUDENT BEFORE ANY LAB WORK CAN BE PERFORMED. IN ADDITION, EATING OR DRINKING IN THE LAB IS NOT ALLOWED. GUM CHEWING IS NOT ALLOWED. A LABORATORY IS NOT A PLAYGROUND OR AN ARENA. IF A STUDENT DOES NOT RESPECT THIS POLICY HE/SHE WILL BE SUSPENDED FROM THE LABORATORY FOR THAT PERIOD.EACH STUDENT WILL HAND IN THEIR OWN ORIGINAL WORK FOR A LABORATORY REPORT. LAB MAKEUPS ARE AT LUNCHTIME.

TEXTBOOK POLICY: THE TEXTBOOK YOU ARE USING IS NOT YOUR PERSONAL PROPERTY. DO NOT WRITE OR MARK IN IT. STUDENTS ARE REQUIRED TO PROVIDE HIS/HER BOOK WITH A BOOK COVER. IF, AT THE END OF THE SCHOOL YEAR, A STUDENT RETURNS A BOOK IN A FAR WORSE

CONDITION THAN THEY RECEIVED IT, PAYMENT FOR THE BOOK WILL BE REQUIRED. ALL MATERIALS CHECKED OUT AT THE BEGINNING OF THE SCHOOL YEAR MUST BE RETURNED AT THE END OF THE SCHOOL YEAR.

NOTEBOOKS: IT IS STRONGLY RECOMMENDED THAT YOU KEEP A NOTEBOOK WHICH WILL CONTAIN NOTES TAKEN FROM LECTURES, GROUP DISCUSSIONS, HOMEWORK AND NOTES YOU MAY WANT TO TAKE FROM THE TEXT, AS WELL AS LAB REPORTS. A LOOSE LEAF BINDER WILL DO. YOU MAY USE THIS NOTEBOOK WHILE YOU TAKE ANY EXAM,TEST, OR QUIZ. A GOOD NOTEBOOK MEANS A GOOD GRADE.

PARENTS OR GUARDIAN'SIGNATURE:_____

STUDENT'S SIGNATURE:_____

Physics Syllabus

First Semester

1. Physics Skills
Math Review
Physics and its Applications

2. Linear Motion
Units, Speed, Displacement, Velocity,
Acceleration and Free Fall

3. Vectors
Vector quantities, Vector Addition,
Graphical and Analytical Methods,
Relative Velocity and Projectile Motion

4. Newton's Laws
Forces, Newton's Laws of Motion and
Friction

5. Energy
Work, Potential Energy, Kinetic Energy
and Conservation of Energy

7.Circular Motion and Gravitation
Centripetal force, Centripetal Acceleration,
Gravitation and Satellites

6. Momentum
Impulse and Momentum, Conservation of
Momentum, Rocket Propulsion and
Elastic and Inelastic Collisions

8. Equilibrium
Translational and Rotational Equilibrium,
Center of Gravity and Simple Machines

9. Fluids

Pressure and Buoyancy. Pascal's Principle, and Archimides' Principle

10. Temperature, Heat and Expansion

Temperature, Thermometers, Thermal Expansion, Internal Energy and Heat, Specific Heat Capacity and Calorimetry

11. Waves

Simple Harmonic Motion, Elastic Potential Energy and the Simple Pendulum, Types of Waves, Boundary Behavior, Superposition Principle, Standing Waves Sound, Interference of Sound Waves and Doppler Effect

Second Semester

12. Light and Color

Theories of Light, Electromagnetic Waves, Polarization and Color

13. Reflection and Refraction

Reflection, Refraction, and Total Internal Reflection

14. Mirrors and Lenses

Image Formation, Lens/Mirror Equation, Magnification and Geometric Optics

15. Electrostatics

Electrostatic Force and Coulomb's Law

16. Electric Fields and Potential

Electric Field, Electric Potential Energy Potential Difference and Capacitance

17. Electric Current

Ohm's Law, Resistance and Electric Power

18. Electric Circuits

Series, Parallel and Combination Circuits

19. Magnetism
Magnetic Field, Magnetic Forces and Magnetic Torques

20. Electromagnetic Induction
Faraday's Law, Lenz's Law, Motors, Generators and Transformers

21. The Atom and the Quantum
Quantum Theory, Photoelectric Effect, and X-Rays

22. The Atomic Nucleus and Radioactivity
Radioactive Decay, Half-Life and Transmutation

23. Nuclear Fission and Fusion
Mass-Energy Equivalence, Nuclear Fission/ Fusion Nuclear Reactors, Breeder Reactors