

## Physics 112

Thursday, October 4/18

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1. SA -> U1: S1&2 - Topics (See Next Page)
    - Date: Frid., Oct. 5/18
    - Questions?
  2. Interpreting PT and VT Graphs
  3. UAM - Kinematic Equation #3
  4. UAM - Kinematic Equation #4 - To Be Continued
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5. Worksheet - Motion Problems

## Topics -> SA U1: S1&2

1. kinematics
2. two types of physical quantities:
  - (i) scalar quantity - has magnitude only
    - has units
    - be able to name and give examples of four scalar quantities
  - (ii) vector quantity - has magnitude and direction
    - has units
    - vector notation
    - conventional directions
    - be able to name and give examples of four vector quantities
3. arrows are used to represent vector quantities graphically
4. resultant
5. two graphical methods used to add vector quantities:
  - (i) head-to-tail method
  - (ii) parallelogram method
6. determine the range of possible resultant values
7. adding vectors analytically (follow the rubric)

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8. three types of motion: no motion
  - uniform motion
  - uniformly accelerated motion
9. use directions of velocity and acceleration to describe an object's motion (ie/ complete chart for vehicle)
10. interpret position-time graphs
11. interpret velocity-time graphs
12. obtain information by reading data from a velocity-time graph and performing calculations

Format: MC (multiple choice)

Chart (scalars vs. vectors, names/examples)

Calculate **R** (rubric)

Chart (motion of a vehicle)

Velocity-Time Graph

## Physics 122

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1. FA - Static Torque #1
  2. Static Torque Problem: Type II (Includes Forces at Angles)
  3. [Worksheet: Static Torque Type II - Try Some](#)
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4. FA - Static Torque #2

## Science 10

Thursday, October 4/18

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1. Science Reading Article - Human Cyborgs vs Bionic Humans
2. FA - Molecular Compounds
3. Worksheet - Mixed Ionic/Covalent Compounds #1  
Worksheet - Mixed Ionic/Covalent Compounds #2
4. SA Chem #2 - Atoms to End of Compounds
  - Topics (See Next Page)
  - Date: Wednesday, October 10/18
5. Review for SA Chem #2

**Topics: SA - Chem #2**

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1. atoms -> electrically neutral:  $\#p^+ = \#e^-$
2. chemical names and symbols: elements and ions
3. periodic table of the elements: location of metals, nonmetals and metalloids
4. atomic number = number of protons
5. draw a Bohr-Rutherford diagram for an atom of an element
6. ions - atoms that have gained or lost electrons
  - cations/positive ions/metallic ions
  - anions/negative ions/nonmetallic ions
  - be able to state number of protons, number of electrons and ion charges
7. draw a Bohr-Rutherford diagram for an ion of an element
8. ionic bond - created by transfer of electrons
9. be able to identify monatomic ions, polyatomic ions and ions of multivalent metals
10. ionic compounds - electrically neutral
11. be able to write the names of simple binary ionic compounds given their formulas and vice versa
12. be able to write the names of ionic compounds containing polyatomic ions given their formulas and vice versa
13. know roman numerals 1-10
14. be able to write the names of ionic compounds containing multivalent metals given their formulas and vice versa
15. be able to write the names of ionic compounds containing multivalent metals and polyatomic ions given their formulas and vice versa
16. covalent bond - created as a result of the sharing of electron pairs
17. molecular compounds = covalent compounds = molecules
18. prefixes 1-10
19. diatomic molecules:  $H_2, N_2, O_2, F_2, Cl_2, Br_2, I_2$
20. special molecules:  $P_4, S_8$ , water, ammonia, hydrogen peroxide
21. be able to write the names of binary molecular compounds given their formulas and vice versa
22. identify ionic compounds and molecular compounds