

# CHEM1210: Chemistry I

## 'The Atom' Part 1 - 20 mins

### 1. Democritus and Atoms

- (a) Where and when was the electron discovered?                      b.) Who discovered the electron?

### 2. Priestley, Cavendish and Lavoisier

- a.) What were Priestley's achievements? b.) What were Cavendish's achievements?  
c.) What were Lavoisier's achievements?

### 3. John Dalton

- a.) What was Dalton's profession?    b.) What were Dalton's main achievements?

### 4. Dalton's Evidence

- a.) How did Dalton's work differ from Democritus's?                      b.) Was his evidence direct or indirect?  
c.) What are some examples of the usefulness of atomic theory?

### 5. Mendeleev's Periodic Table

- a.) How many elements made up Mendeleev's first periodic table?  
b.) How did Mendeleev know that some elements had yet to be discovered?

### 6. Discovery of X-Rays

- a.) When were X-Rays discovered?    b.) What device was used to produce X-Rays?  
b.) What did Roentgen discover about X-Rays?                              c.) What property of U did Becquerel discover?  
d.) What element did Marie and Pierre Curie discover?

### 7. Atomic Theory Basics

- a.) How did Thomson explain the glow from the Crooke's Tube?              b.) What happened to Rutherford's alpha particles?  
c.) What was Rutherford's analogy to describe the deflection of alpha particles by the gold foil?  
d.) What did Rutherford's model of the atom look like?                      e.) What are 'fingerprints' of atoms?  
f.) Who discovered the neutron?

## 'The Atom' Part 2 - 20 mins

### 8. Periodic Table

- a.) When do atoms come to rest?    b.) How does chemical change occur?  
c.) How does nuclear change occur?    d.) What is the simplest of atoms?  
e.) The Periodic Table is described as 'The Universe in \_\_\_\_\_ flavors.

### 9. Chemical Bonds

- a.) Why is it important to know bond angles in molecules?

### 10. Carbon Bonds, DNA, Electronics

- a.) How do scientists study the nucleus?                                      b.) What are protons and neutrons made of?  
b.) What are some uses of radioisotopes?