

## Check List ATS-Chemistry

Unit	Content
Atomic structure	<input type="checkbox"/> History of atomic structure
	<input type="checkbox"/> Average atomic mass
	<input type="checkbox"/> Subatomic particles
	<input type="checkbox"/> Quantum numbers
	<input type="checkbox"/> Electron configuration
Periodic Table Trend	<input type="checkbox"/> Metal and nonmetal properties
	<input type="checkbox"/> Atomic size
	<input type="checkbox"/> Ionization energy
	<input type="checkbox"/> Electronegativity
	<input type="checkbox"/> Electron affinity
Chemical bond	<input type="checkbox"/> Bond and Intermolecular force
	<input type="checkbox"/> Ionic bond
	<input type="checkbox"/> Ionic naming
	<input type="checkbox"/> Ionic properties
	<input type="checkbox"/> Net ionic equation and Precipitation
	<input type="checkbox"/> Covalent
	<input type="checkbox"/> Lewis structure
<input type="checkbox"/> Molecular shape	

- Polarity of bond and polarity of molecules
- Type of covalent bond
- Intermolecular interaction
- Properties of covalent molecules
- Metallic bond

### Solid, liquid and gas

- Phase change
- Heat calculation
- Solid properties
- Liquid properties
- Gas properties

### Moles and Stoichiometry

- Number of particles
- Percent composition
- Empirical and Molecular formula
- Stoichiometry
- Excess reagent
- Limiting reagent
- Percent yields

- Homo and Hetero mixture
- Concentration

Solution Chemaistry

- Molarity
- Molality
- Percentage
- PPM and PPB
- Dilution and Mixture
- Colligative properties
- Stoichiometry in solution chemistry

Chemical reaction

- Types of reaction
- Energy profile
- Heat and stoichiometry
- Bond dissociation
- Enthalpy of formation
- Hess's law
- Collision theory
- Rate of chemical reaction
- Rate Law
- Intermediate and Catalyst

Equilibrium chemistry

- Definition fo equilibrium chemistry
- Equilibrium constant

## Equilibrium Chemistry

- Reaction quotient
- Lechaterier

## Acid and Base

- Acid base properties
  - Acid base theory
  - Arrhenius acid and base
  - Bronsted acid and base
  - Conjugate acid and base
  - Lewis acid and base
  - Types of acid
  - Type of base
  - Anhydride
  - Amphoteric substance
  - Salt
  - pH determination in strong acid or strong base
  - pH determination in weak acid or weak base
  - pH determination in salts
  - pH determination in buffer
  - Titration of acid and base
- Redox defination

## Electrochemistry

- Oxidation number
- Oxidizing and reducing agent
- Balance redox equation
- Electrochemical cell
- Galvanic cell
- Electrolytic cell
- Electro plating

## Organic chemistry

- Hydrocarbon
- Alkane
- Alkene
- Alkyne
- Cyclic and aromatic hydrocarbon
- reaction in hydrocarbon
- Isomer of hydrocarbon
- Naming of hydrocarbon
- Functional group
- Reaction of functional hydrocarbon
- Polymer
- Additional polymer



Copolymer