



## **Syllabus for Jiangsu University Baseline Examinations**

**Study Material Guide: Note the examination will include some of these topics not all.**

# Chemistry

## 1. Inorganic Chemistry

- The Periodic Table.
- Chemical Periodicity
- Group II
- Group IV
- Group VII
- An introduction to the chemistry of transition elements
- Nitrogen and sulphur
- Introductory topics

## 2. Organic Chemistry

- Hydrocarbons
- Halogen derivatives
- Hydroxyl compounds
- Carbonyl compounds
- Carboxylic acids and derivatives
- Nitrogen compounds
- Polymerisation

## 3. Chemistry Applications

- The chemistry of life
- Applications of analytical chemistry
- Design and materials

# Physics

- Physical quantities and units
- Measurement techniques
- Kinematics
- Dynamics
- Forces, density and pressure
- Work, energy and power
- Motion in a circle
- Gravitational fields
- Deformation of solids
- Ideal gases
- Temperature
- Thermal properties of materials
- Oscillations
- Waves
- Superposition
- Communication
- Electric fields
- Capacitance
- Current of electricity
- D.C. circuits
- Electronics
- Magnetic fields
- Electromagnetic induction
- Alternating currents
- Quantum physics
- Particle and nuclear physics

# Mathematics

- Mathematics
- Quadratics Set
- Theory Functions
- Coordinate
- Geometry
- Circular measure
- Trigonometry
- Vectors
- Series
- Differentiation
- Integration
- Algebra
- Logarithmic and exponential functions
- Numerical solution of equations

# English Language

The English language course is based on CET6 college English requirements with 4 main sections namely:

1. Reading and Comprehension skills.
2. Listening Skills.
3. Academic English writing skills.
4. English language speaking and expression skills.

# Reference study materials and texts

*The following texts contain valuable science subject concepts and principles that may be included in the standardized entrance examinations.*

## **Biology**

1. *Biological Science; D.J Taylor, G.W. Stout. N.P.O. Green, R. Soper, Published by Cambridge University Press ISBN :052168416847X/9780521684170*

## **Mathematics**

1. *Pure Mathematics 2, L. Bostock and S Chandler*

## **Chemistry**

1. *Chemistry, J.G.R Briggs (2<sup>nd</sup> Edition)*

## **Physics**

1. *A level physics Fourth Edition, Roger Muncaster, Oxford Press*

## **English language**

*The examination is modelled to offer a standardized measure of English language proficiency in the following key areas*

1. *Listening*
2. *Writing*
3. *Reading comprehension*

*Therefore, most texts used for IELTS or CET6 College English exams are suitable.*