

# Teaching of General Science

**Course Code:** EDU-512

**Credit Hours:** 04 (4-0)

## **Introduction:**

The study of General Science in Primary and Secondary school is linked to National prosperity and economic development. The course is designed for the effective interactive ways of teaching science. The course will highlight the power of observation and inquisitiveness in general sciences studies. It will also focus on how to relate facts, concepts, and theories to every day experience.

## **Objectives:**

The course will enable learners to;

- Understand scientific concepts
- Differentiate between scientific products and scientific processes
- Understand the underlying principle of science education
- Apply appropriate methods and techniques for effective learning in Science

## **Course Outline**

### **1. Nature of Science**

- 1.1. Definition of science
- 1.2. Science as a process: Scientific Method
- 1.3. Science as a product: Scientific Knowledge

### **2. Aims / Objectives Teaching General Sciences**

- 2.1. History of Science Education
- 2.2. Aims / Objectives of teaching General Science at Elementary level

### **3. Methods of Teaching General Science**

- 3.1. Demonstration cum-lecture method
- 3.2. Discovery method
- 3.3. Project method
- 3.4. Other innovative method
- 3.5. Planning lessons

### **4. Approaches of Teaching General Science**

- 4.1. Teaching approach
  - 4.1.1. Problem solving
  - 4.1.2. Inquiry techniques
  - 4.1.3. Exploration

4.1.4. Observation

4.1.5. Experiment

4.2. Teaching Strategies

4.2.1. Scope & purpose of practical activities

4.2.2. Science laboratory

4.2.3. Safety measure in laboratory

## 5. Teaching Aids

5.1. Need & importance of teaching aids

5.2. Types of teaching aids

5.3. Principles of using teaching aids

5.4. Using low cost teaching aids

## 6. Characteristics of effective Science Teaching

6.1. Characteristics of lesson planning

6.2. Characteristic qualities of science teacher

6.3. Effective questioning

## 7. Evaluation

7.1. Designing a test

7.2. Administering & scoring a test

7.3. Interpreting test results

## 8. Content

8.1. Matter and Forces

8.2. Energy

8.3. Heat and Light

8.4. Structure of Cell

8.5. Human Systems

8.6. Metals And Non Metals

### Recommended Books:

- Lawson, Anton. E. (1995). *“Science teaching and development of thinking”*. California: Wadsworth publishing company
- Rehman Mehmooda (1999). *Teaching of science and mathematics*. Peshawar: Ijaz printer, Pakistan
- Agha Khan University Examination Board (2002) *General Science IX- X (based on National Curriculum 2002)*. Karachi: AGKEB.
- William Lewis Eikenberry (2008). *The teaching of general science*, The University of Chicago Press
- Feden , P.D. and Vogel , R.M.(2003). *Methods of teaching: Applying cognitive science to promote students learning* . Boston: McGraw-Hill.
- Hoong , T. L. Leng , H. P. (2003). *Lower Secondary Science 2* Singapore :SNP Panpac
- Hoong , T. L. Leng,H. P. (2003). *Lower Secondary Science I* Singapore : SNP Panpac
- Qureshi, N. A. et al (2002). *Science 3*. Lahore: Punjab Text Book Board .
- Qureshi, A. M. et al (2003). *General Science*. Lahore: Punjab Text Book Board.
- Saleemi, F. et al (2002 b). *Science 1*. Lahore: Punjab Text Book Board.
- Saleemi, F. ( 2003 a). *Science 2*. Lahore: Punjab Text Book Board.
- Saleemi, F. (2004). *Science 3*. Lahore: Punjab Text Book Board.
- Saleemi, F. ( 2003 b). *Science 7*. Lahore: Punjab Text Book Board.
- Saleemi, F.et al (2002 a). *Science 6*. Lahore: Punjab Text Book Board.