

PRE-REQUISITE: ENSC-105**LEARNING OUTCOMES**

Upon successful completion of the course the student will be able to:

- Demonstrate knowledge of chemical and biochemical principles of fundamental environmental processes in air, water, and soil.
- Recognize different types of toxic substances & responses and analyze toxicological information.
- Apply basic chemical concepts to analyze chemical processes involved in different environmental problems (air, water & soil)

CONTENTS**Unit-I:**

- 1.1. Dissolved Oxygen
- 1.2. Chemical Oxygen Demand
- 1.3. Biological Oxygen Demand

Unit-II:

- 2.1. Total Dissolved Solids
- 2.2. Total Suspended Solids

Unit-III:

- 3.1. Conductivity measurements
- 3.2. pH measurements

Unit-IV:

- 4.1. PM estimation in air

TEACHING – LEARNING STRATEGIES

- Lecture based examination
- Presentation/seminars
- Class discussion
- Quizzes

ASSIGNMENTS – TYPE AND NUMBER WITH CALENDAR

It is continuous assessment. The weightage of Assignments will be 25% before and after midterm assessment. It includes:

- classroom participation,
- attendance, assignments and presentation,
- homework
- attitude and behavior,
- hands-on-activities,
- short tests, quizzes etc.

RECOMMENDED TEXT BOOKS / SUGGESTED READINGS

1. Overway, K.S. (2017). *Environmental Chemistry*. An Analytical approach. John Wiley and Sons.
2. Sonwani, S. and Shukla, A. (2021). *Air borne Particulate Matter, Source, Chemistry and Health*. Springer Singapore
3. Colin B. and Michael C. (2012). *Environmentdal Chemistry*, Fifth edition. W. H. Freeman & Company.
4. Stanley M. (2017). *Environmental Chemistry*. CRC Press
5. Bhatti, N.H. and Noreen, S. (2017). *Principles of Environmental Chemistry*. The Carwan Book House, Lahore

Further Reading: As suggested by the Instructor.