Programme	BS Botany	Course Code	BOT-209L	Credit Hours	1
Course Title	**Principles of Plant Ecology (Lab)**				

Lab Course Contents

- Determination of Soil Texture of given soil sample by Hydrometer method
- Find out the percentage and types of Water Stable Aggregates in a given soil sample by
- Wet Sieving Technique
- Determination of Capillary Rise of water in soil of different textures
- Study the Infiltration and Permeability in soils of different textures
- Determination of soil moisture constants of given soil sample
- Determination of Oxidizable Organic Matter Content of soil by Wet Digestion Method
- Determination of soil water holding capacity of given soil sample
- Determination of Air Temperature and Relative Humidity in open sunlight/shade at
- ground level and different heights with a Whirling Psychrometer
- Determination of Light Intensity in various habitats by using a Lux-Meter
- Study the different adaptations in Hydrophytes, Xerophytes and Cacti.
- Study of Heliophytes and Sciophytes
- Study of Impact of Wind on plants- Cushion plants
- Preliminary survey to gain information about different local Plant Communities

Textbooks and Reading Material

1. Begon, M., Howarth, R. W. and Townsend C .R .(2014) .Essentials of Ecology.4th Edition Wiley 480 .pp.
2. Chapman, J. L. and Reiss, M.J. (1999). *Ecology: Principles & Applications.* Cambridge University Press. London. 330 pp.
3. Hussain, F. (1989). *Field and Laboratory Manual of Plant Ecology.* National Academy of Higher Education, Islamabad.
4. Lambers, H., Chapin III, F. S. and Pons, T. L. (2008). *Physiological Plant Ecology.* Second Edition. Springer. 545 pp.
5. Schulze, E. D., Beck, E. and Müller-Hohenstein, K. (2005). *Ecology.* Springer. 207 pp.
6. Smith, T. M. and Smith, R. L. (2006). *Elements of Ecology.* Pearson Canada. 645 pp.

Teaching Learning Strategies

- Lectures
- Group Discussion
- Laboratory work
- Seminar/ Workshop

Assignments: Types and Number with Calendar
• Lecture Based Examination (Objective and Subjective) • Assignments • Class discussion • Quiz • Tests