Course Code	Course Title	Credit Hours
ENS-855	**Carbon Sequestration and Environment**	**3 (3+0)**

Course Description

The course will provide a comprehensive introduction to carbon sequestration and its role in environmental sustainability.

Course Outline

Carbon sequestration: Introduction and concepts, Global carbon cycle, Carbon emissions, Carbon capture and storage.

Soil Organic Matter and Terrestrial C Cycle: Terrestrial bio-sequestration, Soil enzymes and plants in C sequestration.

Role of C Sequestration in Climate Change Mitigation: Factors influencing C accumulation, National and International adaptation and mitigation plans.

Carbon Trading: Carbon footprints, Carbon offsets, Carbon credits and clean development mechanisms.

Recommended Books

1. Hester, R. E., and Harrison, R. M. (2010). *Carbon capture: Sequestration and storage (Vol. 29).* RSC Publishing, Cambridge, UK.
2. Berg, B. and McClaugherty, C. (2008). *Plant litter: Decomposition, humus formation, carbon sequestration* (2nd ed.). Springer-Verlag, Berlin, Germany.
3. Lal, R., Suleimenov, P., Doraiswamy, P., Wall, P., and Hansen, D. (2007). *Climate change and terrestrial C sequestration in central Asia*. Taylor and Francis, Amsterdam, Netherlands.