

# NATURE SCIENCE FOUNDATION, COIMBATORE, TAMIL NADU &

## Green Skill Development Course

### Course Aim:

Support the students of Botany, Zoology, Environmental Science, Geology and Geography to develop their skills in terms of maintaining the eco-friendly campus in an Organization and to progress India's youth into employable and/or self-employment, making use of the widespread network and experience with environmental protection and nature conservation.

### Learning Objectives:

The students and staff members enable to

1. Develop green skilled workers having technical knowledge and commitment to sustainable development, which will help in the attainment of making India into greenish.
2. Exhibit the skills on establishment of green campus at Educational Institutions and Industrial sectors across the globe towards sustainable development goals and national biodiversity targets.
3. Understand the principles and importance of various audits in the context of the organization and risk assessment to Educational Institutions and Industries.
4. Study the concept on how to conduct 'Green campus audit', 'Environmental audit' and 'Hygiene/Water/Soil audits' at 360° view?.
5. Become a Lead Auditor and Entrepreneur in the field of Green Campus and Environment Management Audits to provide solution for environmental problems.

### Course Outcomes:

1. Development of basic understanding on Environment Management System and overview of International Standards on ISO 14001:2015.
2. Understand the audits groundwork, checklist preparation, practical auditing and auditing techniques, Audit/Non-conformity report preparation and submission.
3. Expose for the expertise on wildlife conservation, nurseries, gardening etc. with Department of atmosphere and Environment and Forests of the Central Governments as well.
4. Study the methods of disposal, ways to reduce the carbon footprint and the importance of green campus and environment policy to solve the environmental problems
5. In what way the audit process supports the nation for the noble cause of environmental protection and nature conservation to enhance the quality of life to human beings.

### Unit I: Introduction to green skill development

[6 hours]

What are green skills?, Importance of Green Skill Development Programme, Financial or social constraints in green skill development, Green skilled workforce, Information, abilities, values and attitudes of green skills, Cleaner and greener production and service patterns, Green construction of buildings, Indian, Green building code, Indian Green Building Council, Biodiversity and its conservation,

### Unit I: Introduction to plant and animal species

[6 hours]

Introduction to plant and animal species, Plant and animal taxonomy, Flora and Fauna diversity of terrestrial, marine and coastal regions, Mammals, Birds, Grasshopper, Butterflies, Mosquitos Reptiles, Amphibians and Termites role in ecosystem, Plant breeding techniques, Nursery development, Types of gardening, Water Irrigation system, Use of Biofertilizers, Vermicompost, Organic manures, Aquarium development.

**Unit II: Introduction and Importance of Green campus Audit [6 hours]**

Introduction to green campus audit, Green campus audit procedures, Target areas of green auditing, Forest and planted Vegetation, Natural topography, Landscape design, Soil erosion control, Pedestrian Path, Rain harvesting system, Acoustic proof in Indoor and Outdoor Stadiums, Recommendations for greening the campus.

**Unit III: Introduction and Importance of Environment Audit [6 hours]**

Environmental Management System, Environment audit procedures and target areas of environment auditing, Benefits, phases and components of environmental audit, Environmental risk assessment, Public transport, Low emitting vehicles and control of car smokes and exhausts, Carbon footprint by measuring carbon dioxide and oxygen levels in the campus, Recycling of solid wastes and wastewaters, Plastics, E-wastes and Biomedical waste management audits.

**Unit V: Case studies, Auditing Techniques and Audit Report Preparation [6 hours]**

Case studies, Seminars, Assignment, Tutorials and Auditing exercises, Audited site visits and demonstrations, Audits groundwork, checklist preparation, Practical auditing and auditing techniques, Audit conformity and Non-conformity report preparation, Recommendations and suggestions after audit to the auditees.

**Total Lectures / Demonstrations / Case studies / Audited site visits Hours [30 hours]**

**Text Books:**

1. Gnanamangai, B.M., Muruganath, G. and Rajalakshmi, S. 2021. *A Manual on Environment Management Audits to Educational Institutions and Industrial Sectors*. Laser Park Publishing House, Coimbatore, Tamil Nadu, India.
2. Ponmurugan, P., Deepa, M.A. and Shreeram B. 2022. *Green skill development*. New Age International Publishing, New Delhi. (In Press).
3. Rajalakshmi, S., Kavitha, G. and Vinoth kumar, D. 2021. *Energy and Environment Management Audits*. AkiNik Publishing, New Delhi, India.

**Reference Books:**

1. Cardozo, N.H., da Silveira Barros, S.R., Quelhas, O.L.G., Filho, E.R.M. and Salles, W. 2019. *Benchmarks analysis of the higher education institutions participants of the Green Metric World University Ranking*. Springer, Universities and Sustainable Communities: Meeting the Goals of the Agenda 2030, World Sustainability Series.
2. IGBC, 2021. Indian Green Building Council. <https://igbc.in/igbc/>
3. Leal Filho, W., Muthu, N., Edwin, G. and Sima, M. 2015. *Implementing campus greening initiatives: approaches, methods and perspectives*. Springer, London, UK.
4. Pramanik, A.K. 2013. *Environmental Audit and Indian Scenario, Environmental Accounting and Reporting*. Deep and Deep Publications, New Delhi, India.
5. Roethlisberger, F.J. and Dickson, W.J. 2017. *Hygiene Management and its Implementation*. Harvard University Press. Cambridge, UK.
6. Thompson, D. 2018. *Tools for Environmental Management*. New Society Publishers, Gabriola Island, BC.