Natural Resource Management

Year: 2020-21

Centurion University of Technology and Management, Odisha

- Prerequisites: Nil
- Course Type: Audit (Workshop)
- Duration: 30 Hours

Course Objectives

- To understand general principles of natural resource management
- To apply soil and water conservation principles and practices on natural resource management
- To assess the challenges between agricultural productivity and environmental protection

Learning Outcomes

- Learn how to use critical thinking skills to convey how society perceives what natural resource management is
- Learn how we actually manage or conserve our natural resources, how these activities impact our natural resources
- Learn how to improve on these applications, and how to network with pertinent organizations and individuals to collaborate on these ideas.

Course Syllabus

Module	Contents	Duration
1	Introduction	6 hrs
2	Soil and Soil Conservation	6 hrs
3	Forest Ecology, Wildlife Management & Species Extinction	6 hrs
4	Water Ecosystem & Water Quality	6 hrs
5	Climate Change Effects on Natural Resources	6 hrs
	Total	**30 hrs**

Research Methodology and IPR

Year: 2020-21

Centurion University of Technology and Management, Odisha

Course Objectives

- To equip students with a basic understanding of the underlying principles of quantitative and qualitative research methods.
- Provide students with in-depth training on the conduct and management of research from inception to completion using a wide range of techniques.

Learning Outcomes

- Enable students to acquire expertise in the use and application of the methods of data collection and analysis.
- Provide learning opportunities to critically evaluate research methodology and findings.

- Prerequisites: Nil
- Course Type: Audit (Workshop)
- Duration: 30 Hours

Course Syllabus

Module	Contents	Duration
1	Introduction to RM	10 hrs
2	Measurement and Data Collection	6 hrs
3	Report Writing and Presentation	6 hrs
4	Introduction to Intellectual Property Rights	8 hrs
	Total	**30 hrs**

Urban Gardens using Hydroponics

Year: 2020-21

Centurion University of Technology and Management, Odisha

Course Objectives

- To provide practical knowledge and to develop a sound understanding of hydroponics technology
- To impart knowledge on raising crops in hydroponics sustainably

Learning Outcomes

- Gaining knowledge on hydroponics technology
- Successful raising of crops under hydroponics system

Course Syllabus

Module	Contents	Duration
1	Pre-requisites for hydroponics technology	8 hrs
2	Sowing and crop establishment in hydroponics	11 hrs
3	Crop management and harvesting in hydroponics system	11 hrs
	Total	**30 hrs**

- Prerequisites: Nil
- Course Type: Audit (Workshop)
- Duration: 30 Hours

Introduction to Python

Course Objectives

- To acquire programming skills in core Python.
- To acquire Object Oriented Skills in Python
- To develop the skill of designing Graphical user Interfaces in Python
- To develop the ability to write database applications in Python

Learning Outcomes

- Have a basic understanding of Python
- Write basic programs using Python

- Prerequisites: Nil
- Course Type: Audit (Workshop)
- Duration: 30 Hours

Course Syllabus

Module	Contents	Duration
1	Introduction to Python and Computer Programming	5 hrs
2	Data Types, Variables, Basic Input-Output Operations, Basic Operators	5 hrs
3	Boolean Values, Conditional Execution, Loops, Lists and List Processing, Logical and Bitwise Operations	5 hrs
4	Functions, Tuples, Dictionaries, and Data Processing	5 hrs
5	Modules, Packages, String and List Methods, and Exceptions	5 hrs
6	The Object-Oriented Approach: Classes, Methods, Objects, and the Standard Objective Features; Exception Handling, and Working with Files	5 hrs
	Total	**30 hrs**

MATLAB

Centurion University of Technology and Management, Odisha

Course Objectives

- To Impart the Knowledge to the students with MATLAB software.
- To provide a working introduction to the MATLAB technical computing environment.
- To introduce students the use of a high-level programming language, MATLAB

Learning Outcomes

- To learn features of MATLAB as a programming tool.
- To promote new teaching model that will help to develop programming skills and technique to solve mathematical problems.
- To understand MATLAB graphic feature and its applications.
- To use MATLAB as a simulation tool.

Course Syllabus

Module	Contents	Duration
1	Introduction	6 hrs
2	MATLAB Functions	6 hrs
3	Graphics with MATLAB	6 hrs
4	Programming with MATLAB	6hrs
5	Mathematical Computing with MATLAB	6 hrs
	Total	**30 hrs**

- Prerequisites: Nil
- Course Type: Audit (Workshop)
- Duration: 30 Hours