**Tentative Course Outline & Schedule**

The normal training course consists of 10 training days plus 1 rest day in between. Each day is split into a morning theory session and afternoon lab, practical or field session. Each day, a participant presents a case study from his or her area, region or country followed by a group discussion.

**DAY 1**

*Mangrove Ecosystems – Introduction to Marine and Coastal Environments*

- Occurrence, distribution and diversity of mangroves
- Overview of status and threats to mangroves - global, regional, national
- Benefits and human uses of mangroves
- Importance of mangrove ecosystems
- The ecology and biology of mangroves
- Connectivity with other ecosystems

**DAY 2**

*Biodiversity of Mangrove Ecosystems, and Assessment and Monitoring Methods, Part 1*

- Phytoplankton
- Zooplankton
- Amphipods
- Crabs
- Reptiles
- Marine Mammals
- Seaweeds and Seagrasses
- Species Collection and Identification (Practical and field session)

**DAY 3**

*Biodiversity of Mangrove Ecosystems, and Assessment and Monitoring Methods, Part 2*

- Marine fishes
- Marine Actinobacteria
- Molecular Tools for Assessing Genetic Diversity & Demonstration
- Barcoding of Species & Bioinformatics
- Biodiversity Assessment Study (Practical and field session)

**DAY 4**

*Biodiversity of Mangrove Ecosystems, and Assessment and Monitoring Methods, Part 3*

- Identification of Marine Bacteria & Fungi (Practical)
- Molluscs
- Nematodes and Polychaetes
- Prawns and Shrimps
- Demonstration and use of Sampling Equipment (Practical and field session)
- Field demonstration on vegetation characteristics of mangroves

**DAY 5**

*Application of Remote Sensing & GIS for Resource Assessment*

- GIS Application in Disaster Assessment & Management
- GIS Application in Mangrove Resource Assessment & Management
- GIS Laboratory (Practical)

**DAY 6**

REST DAY

**DAY 7**

*Mangrove Management and Restoration Tools, Part 1*

- Concepts of restoration, afforestation, flow restoration
- Silviculture, eco-friendly aquaculture
### DAY 8

**Mangrove Management and Restoration Tools, Part 2**

- Field visit to restored mangrove area areas and integrated activities
- Field demonstration of a successful mangrove restoration in degraded area
- Demonstration of Vegetative Propagation Techniques in Mangroves
- Field demonstration of methods for replanting stands and plantation exercise

### DAY 9

**Economic Valuation and Payments for Mangrove Ecosystem Services**

- Marine Protected Areas as Management Tools
- Mangrove Ecotourism
- Community based management approaches, alternative livelihoods, property rights, tenure issues (Case Studies)
- Visit ecotourism area in mangroves
- Field Visit to the Community (exercises for social and economic assessments etc.)

### DAY 10

**Mangroves in a Changing Climate**

- Climate change impacts
- Mangroves role in climate change
- Role of mangroves in carbon cycle
- Carbon accounting in mangroves
- Tools and methods for increasing the resilience of these ecosystems to global change
- Vulnerability and risk reduction strategies
- Mitigation and adaptation measures
- Field demonstration of carbon sampling methods etc.

### DAY 11

**Overview, Future Goals, Closing**

- Policies for mangroves (global, regional and national)
- Conventions (RAMSAR, UNESCO, CBD, UNEP RS)
- Climate change frameworks and policies (UNFCCC, Kyoto, Cancun, REDD (+), CDM, VCM etc.)
- Overview and analysis of mangrove relevant policies in WIO countries;
- Overview and analysis of gaps and policy hurdles for sustainable management and needs for policy reforms
- Recap of training course, evaluation and group discussion
- Plan of Action for improving research, training and management in WIO region