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| **Semester** | **8** | | |
| **Course code** | **ZOOL 42654** | | |
| **Course Name:** | **Fish stock Assessment and Fisheries Management** | | |
| **Credit Value:** | 4 | | |
| **Core/Optional** | Core | | |
| **Pre requisites** | **ZOOL 31512** | | |
| **Co-requisites** | **None** | | |
| **Hourly Breakdown** | Theory | Practical | Independent Learning |
| | 45 | 45 | 110 |

**Course Aim/Intended Learning Outcomes**:

After the completion of this course unit the student will be able to;

- evaluate the trends in world fisheries,
- explain the impact of anthropogenic activities on fisheries,
- explain the legal regime of the sea,
- describe the fisheries of the Indian ocean and Sri Lanka,
- effectively participate in the development of management procedures for Sri Lankan fisheries,
- describe and critically discuss fish population dynamics,
- apply knowledge in fish stock assessment in the management of capture fisheries,
- use stock assessment software packages, and
- demonstrate skills in the management of fisheries.

**Course Content**:

Recent trends in world fisheries, Anthropogenic activities on world fisheries, Tuna and tuna like fisheries, Effects of legal regime of the sea on fisheries, Shared stocks, Untapped resources, Enhancement strategies in fisheries, Fisheries of the Indian Ocean, Fisheries of Sri Lanka, Concept of unit stock, Methods of fish stock identification, Age and growth of fish, Gear selection, Recruitment, Stock-recruitment relationships, Mortality, Estimation of population size, Estimation of past population size using virtual population analysis and cohort analysis, VPA and gear selection, Concepts of Maximum sustainable yield, Surplus yield models, Maximum Economic Yield and Maximum Social Yield, Yield per recruit models, Semi-quantitative methods in fish stock assessment, Ecosystem Approach to Fisheries, Introduction to fisheries management, Problems associated with the management of fisheries, Fisheries management process, Community-based fisheries management, Fisheries co-management, Fisheries regulations in Sri Lanka.

Laboratory Practical and field studies.

**Teaching /Learning Methods**: A combination of lectures, laboratory and field practical sessions, use of stock assessment software and computer based learning, self-studies, assignments and small group discussions.

**Assessment Strategy**: Continuous assessment and end of course examination.

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| Continuous Assessment<br>30% | Final Assessment<br>70% | | |
| Details:<br>Online assignment 10%<br>Presentation 10%<br>Field report 10% | Theory (%)<br>50% | Practical (%)<br>20% | Other (%)(specify)<br>NA |

**Recommended reading**:


1. King, M. (1995). Fisheries Biology, Assessment and Management, Fishing News Books, Oxford.
2. Pitcher, T.J. & P. J. B. Hart (1982). Fisheries Ecology, Croom Helm, London.
3. Pauly, D. (1984). Fish Population Dynamics in Tropical Waters: A manual for use with programmable calculators, ICLARM, Manila.
4. Sparre, P. & S. C. Venema (1999). Introduction to tropical fish stock assessment, Parts 1 and 2. FAO Fisheries Technical Paper 306/1 and 306/2 (Rev. 2), FAO, Rome.
5. Gayanilo, Jr., F.C. & D. Pauly (1997). FAO-ICLARM stock assessment tools: Reference manual. FAO Computerized Information Series, Fisheries. FAO, Rome.
6. ftp://ftp.fao.org/docrep/fao/009/a0699e/a0699e.pdf