

FRM-312 Fish Population Dynamics and Stock Assessment 3 (2+1)**Lecture schedule**

S. No.	Topic	No. of classes
Theory		
1.	The concept of population and unit stock	02
2.	Biological structure of fisheries resource in space and time	01
3.	Indicators of dynamics in a fishery resource	01
4.	Characteristics of unit and mixed stock	01
5.	Data requirements for stock assessment	01
6.	Segregation of stocks. Principles of stock assessment	02
7.	Population age structure. Theory of life tables	01
8.	Von Bertalanffy growth parameters	02
9.	Graphical models	02
10.	Estimation of total fishing and natural mortality	02
11.	The concept of yield, yield in number and yield in weight, yield per recruit, yield curve	01
12.	Yield models	03
13.	The concept of Maximum Sustainable Yield and Maximum Economic Yield	01
14.	Biological symptoms of under-fishing and over-fishing. Growth over-fishing and recruitment over-fishing. Eumetric fishing. Open access fisheries	01
15.	Fisheries regulations	01
16.	CPUE	01
17.	Trawl selection and gillnet selection	01
18.	Analytical models of fish stocks	03
19.	Computer software packages in data analysis	05
Practical		
1.	Length-weight relationship in fishes	01
2.	Modal progression analysis	01
3.	Separation of cohort from length frequencies-Bhattacharya method	01
4.	Estimation of growth parameters using length-at-age data	01
5.	Estimation of growth parameters using weight at age data	01
6.	Estimation of total mortality	01
7.	Estimation of fishing mortality	01
8.	Estimation of natural mortality	01
9.	Estimation of maximum sustainable yield (MSY) using surplus production models	01
10.	Analytical models of stock assessment	01
11.	Virtual population analysis	01
12.	Estimation of maximum sustainable yield using dynamic pool model – Yield per recruitment model	01
13.	Estimation of MSY and MEY using prediction model	01
14.	Estimation of trawl net selectivity	01
15.	Estimation of gill net selectivity	01
16.	Computer programmes for fisheries stock assessment analysis	01
Total no. of classes		48



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Course Teacher