

COLLEGE OF FISHERIES, KISHANGANJ
BIHAR ANIMAL SCIENCES UNIVERSITY, PATNA

Class Schedule for M.F.Sc. 1st Semester

FNT-504: Nutritional Energetics 3(2+1)

Theory

Sl. No.	Topic	No. of Classes
1.	Unit I Concepts of nutritional energetics: Energy budget equation; Energetic efficiencies and energy flow/partitioning in biological systems; Gross energy, Digestible energy, Metabolizable energy, Net energy, Heat increment of feeding (specific dynamic action, SDA); Factors influencing energy metabolism	6
2.	Unit II Energy requirement: Energy requirement of fish and shellfish, Factors influencing energy requirements; Energetics of maintenance and methodology of estimating the maintenance requirement.	6
3.	Unit III Energy estimation: Direct and indirect methods of estimation of energy of feed and feed components based on chemical compositions.	5
4.	Unit IV Energetics of growth: Relationship between feeding and growth; Energy exchange in biological systems; Growth and maturation	5
5.	Unit V Energetics of reproduction: Gonadal maturation and reproduction in relation to feeding	4
6.	Unit VI Energetics of intermediary metabolic pathways: Aerobic and anaerobic glycolysis, TCA cycle, Glycogenolysis, Beta oxidation, Electron transport chain, Effect of biotic and Abiotic factors on energy metabolism	6
	Total numbers of classes	32

Practical

Sl. No.	Topic	No. of Classes
1.	Estimation of gross and digestive energy of feed and feed ingredients	3
2.	Estimation of digestibility of nutrients, Bomb- calorimetry	3
3.	Energy budget equation based on experimental data;	4
4.	Determination of standard metabolism in fish	3
5.	Assay of metabolic enzymes	4
	Total numbers of classes	17

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