

AN SC 212 Fall 2007
LECTURE COURSE OUTLINE

Day	Date	Lecture no.	Topic
F	Aug 24	1	Course introduction and review
M	27	2	Plant composition and nutritive value
W	29	3	Feed processing – grains, roughages, byproduct feeds; effects on nutritive value
F	31	4	Assessment of nutritive value of feeds – feed chemistry, animal approaches
M	Sep 3	5	Comparative physiology of digestion; functional adaptations to feed sources
W	5	6	Pregastric and gastric digestion – simple-stomached animals
F	7	7	Ruminant digestion and rumen function – microbial fermentation, nutritional benefits to host
M	10	8	Postgastric digestion and absorption of major nutrient classes
W	12	9	Regulation of feed intake and energy balance; control of meal-eating, long-term modulation
F	14	10	Animal bioenergetics – energy-yielding cellular processes; energy feeding systems
M	17	11	Nutrients – definition, classification, major functions, determination of requirements
W	19	12	Water – body content, sources, losses, requirements
F	21	13	Carbohydrates – chemical forms and dietary sources; glucose production and utilization
M	24	14	PRELIM 1
W	26	15	Volatile fatty acids – production, absorption, tissue metabolism
F	28	16	Lipids – classification, dietary sources, biological functions
M	Oct 1	17	Lipids – tissue synthesis and breakdown, transport, utilization
W	3	18	Proteins – dietary sources, amino acid composition and nutritional value
F	5	19	Protein and amino acid metabolism; animal responses to protein nutrition

M		7		FALL BREAK
W		10	20	Minerals and vitamins – sources, classification, general features and functions
F		12	21	Calcium, phosphorus and vitamin D; magnesium
M		15	22	Mineral-mineral interactions; selenium and vitamin E
W		17	23	Vitamin A and zinc
F		19	24	B vitamins – general functions; vitamin B ₁₂ and cobalt
M		22	25	Meeting nutrient requirements for animal production and health; principles of energy and protein nutrition
W		24		CORNELL NUTRITION CONFERENCE No lecture
F		26	26	Maintenance – physiological basis, energy requirements
M		29	27	PRELIM 2
W		31	28	Reproduction – effects of nutrition on reproductive development and adult fertility
F	Nov	2	29	Pregnancy – conceptus growth; fetal nutrient requirements; maternal metabolic adaptations
M		5	30	Neonatal animal – perinatal metabolic adaptations, development of GI tract
W		7	31	Growth and body composition – allometric growth, factors affecting body composition
F		9	32	Lactation – mammary metabolism and synthesis of milk components; whole-body adaptations
M		12	33	Meeting nutrient requirements for lactation
W		14	34	Working animal – muscle metabolism, whole-body responses, nutrient requirements
F		16	35	Comparative nutrition – dogs and cats
M		19	36	Comparative nutrition – horses, rabbits, other nonruminant herbivores
W		21	37	Comparative nutrition – poultry, other avian species
F		23		THANKSGIVING RECESS
M		26	38	Grazing animal – grassland types, distribution; limits to production; overcoming the limits
W		28	39	Nutrition and health – metabolic diseases
F		30	40	Nutrition and health – immune function