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| **Program**  | Doctor of Veterinary Medicine (DVM) |
| **Module title** | Animal Breeding and Nutrition |
| **Module code** | Vetm-M2094 |
| **Module CP** | 9 |
| **Course title** | **Animal Nutrition** |
| **Course code** | AnPS2092 |
| **Instructor’s name and contact information** | Name: Aschalew Assefa and Yihun AmanEmail: madore01@gmail.com; yihunman21@gmail.com  |
| **Course information**  | Year: II Semester: II  |
| **Course credit** | 5 ECTS/3CrHr |
| **Course objectives** | Up on completion of this course, students will able to:* Identify the major classes of nutrients and their dietary origin.
* Distinguish the chemical nature of nutrients and their relationship to biological functions.
* Analyze how nutrients are digested, absorbed and metabolized by animals.
* Analyze chemical composition of common feed stuffs
* Formulate rations for various classes of livestock
* Determine nutrient requirements for various classes of livestock
* Analyze feeding programs for common livestock species
* Evaluate feeding options relative to feeding value
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**UNIVERSITY OF GONDAR, COLLEGE OF VETERINARY MEDICINE**

**DEPARTMENT OF ANIMAL PRODUCTION AND EXTENSION**

**Course schedule**

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| **Week 1** | **Topics**  | **Required text** |
| W1 | **Introduction to Animal nutrition*** Importance of Animal nutrition
* Definitions of terms
 | Reddy,D.V.,2001a |
| W2 | **Classification of basic nutrients****-Water**: Function, source and requirements, deprivation | McDonald, *et al,2010*Animal nutrition, seventh editiion |
| W2 | **-Carbohydrates**: Classification, properties, utilization , occurrence and functionsDigestion and Absorption of carbohydrate |
| W3 | **-Lipids**: Classification, properties, functions and deficienciesDigestion and Absorption of lipid |
| W3 | **-Proteins:**  Classification of amino acids and proteins, function of proteins, protein structure and deficiencies of amino acids, Digestion and Absorption of protein |
| W4 | **-Vitamins and minerals:**Classification, functions, sources and deficiencies |
| W5-7 | **Feed evaluation** Importance of feed evaluationTypes of feed evaluation |
| W8 &9 | **Feed stuffs; their classifications and characterization** Roughages. energy and protein supplements, minerals and vitamins supplements, feed additives |
| W10 | **The energy and protein values of feeds** |
| W11-12 | **Digestion, Absorption and Metabolism of nutrients**Metabolism of CHO, protein and lipid |
| W13 | **Nutrient requirement by livestock**: --Requirement for maintenance -Requirement for production (energy, protein, mineral and vitamin requirements) |
| W14&15 | **Ration formulation** for different species of farm animals | Handbook attached |
| W16 | Feed Manufacturing technology and Feed quality control | Handbook attached |

**Assessment**

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| Assessment types  | Frequency  | Weight |
| Quiz  | 2 | 10% |
| Assignment  | 1 | 5% |
| Tests  | 2 | 35 |
| Final  |  | 50 |
| Total | **100** |

**Course policy**

Students should obey rules and regulations of the University of Gondar throughout the teaching-learning process.

**Recommended reading materials**

* Agricultural Research Council (ARC).1984. Nutrient requirements of Ruminant livestock. CAB publications
* Banerjee, G.C. 2003. A Text book of Animal husbandry in tropics and subtropics,8th ed. Oxford and IBH publication
* Crampton, E.W., and Harris, L.E. 1969. Applied animal nutrition. 2nd edition.
* McDonald, P., Edwards, R.A., Greenhalgh, J.F.D, and Morgan, C.A. 2010.Animal Nutrition .7th ed. Pearson education
* Ranjan, S.K. 2001.Animal nutrition and in the tropics and subtropics, Vikas publications.
* Reddy, D.V. 2001a. Principles of Animal Nutrition and feed Technology. Oxford and IBH publishing.
* Reddy, D.V. 2001b. Applied Nutrtion: Livestock, poultry, human, pets, rabbits and laboratory animals. Oxford and IBH publishing.