I. Catalog Description (3 Hours):
   This course will cover feeds for ruminant; processing, the nutritive value of feedstuffs and their correct fed schedules and calculations. Three 1-hour lectures (3)

II. Co- or Prerequisite(s):
   AY 304 (Principles of Animal Nutrition)

III. Purposes or Objectives of the Course (optional):
   1) Define between energy needs of various groups.
   2) Describe differences in feedstuff classifications.
   3) Explain factors related to processing of feed products.

IV. Student Learning Outcomes (Minimum of 3):
   1) Students will be able to explain the source & benefits of high energy feedstuffs.
   2) Students will be able to differentiate different feeds for different ruminant species.
   3) Students will be able to expand on calculating balanced rations.

V. Optional departmental/college requirements:
   A. Faculty requires experience in formulating rations

VI. Course Content or Outline (Indicate number of class hours per unit or section):

   A. **Topic**
      **Unit One: Digestive Structure & Groups**
      Cattle: Dairy, Beef and Feedyards 2 hours
      Sheep 2 hours
      Goats 2 hours
      Exam 1
      2 Weeks

      **Unit Two: Feedstuff Classifications**
      High Energy Feedstuffs 6 hours
      Protein Supplements 4 hours
      Exam 2
      3 Weeks
**Unit Three: Feedstuffs Con’t.**
- Roughages: 6 hours
- Vitamin: 3 hours
- Minerals: 3 hours
- Additives: 3 hours

Exam 3

**Unit Four: Nutritive Value**
- Estimating nutritive value of feedstuffs: 3 hours
- Variation in nutritive value of feedstuffs: 3 hours

Exam 4

**Unit Five: Calculations and Processing**
- Processing feedstuffs for ruminants: 5 hours
- Computer calculations: 7 hours

Exam 5

**Final Project**