Animal Nutrition Lab 11:067:331

Fall 2022

Where: Foran 104 (all sections)

When: Section 1: Monday 2:00 pm-5:00 pm - Josh

Section 2: Tuesday 10:20 am-1:20 pm - Yeva

Section 3: Tuesday 2:00 pm-5:00 pm - Tommy

Section 4: Wednesday 10:20 am-1:20 pm - Nadja

Section 5: Wednesday 2:00 pm-5:00 pm – Kuhelika

<u>Text:</u> Recommended: Basic Animal Nutrition and Feeding; by Pond, Church, Pond, and Schoknecht, 5th edition (2005), John Wiley. Other readings assigned in class.

Course web page: Course material can be accessed on the Canvas page

Grading: Grades will be distributed as follows:

In-class/homework assignments: 50%
Quizzes: 30%
Draft lab report sections: 10%
Final lab report: 10%

The lowest quiz score will be dropped. There will be no lab practical.

Grading Scale:

A: 100-88.0% B+: <88.0-80.0% B: <80.0-75.0% C+: <75.0-70.0% C: <70-65% D: <65-60% F: <60.0%

<u>Late Work Policy:</u> Late assignments will be docked 10% per day. After 5 days, the assignment may be turned in at any time for 50% of what the original grade may have been. Please talk to your TA prior to the due date for deadline extensions.

Attendance: If students find that they will not be able to attend their section for University Approved Reasons, they must contact Hank Bignell to discuss other options. Unapproved absences will result in a zero for the lab assignment.

Instructors:

Dr. Barry Jesse

barry.jesse@sebs.rutgers.edu, (848) 932-9095

Meetings by appointment

Professor Henry Bignell

henry.bignell@rutgers.edu
Meetings by appointment

Teaching assistants:

Thomas Degroat

tjd175@sebs.rutgers.edu Meetings by appointment

Joshua Corris

jdc254@scarletmail.rutgers.edu Meetings by appointment

Yeva Shamailova

ys863@scarletmail.rutgers.edu Meetings by appointment

Nadja Knox

nadja.knox5@rutgers.edu

Office Hours: Tuesday, 12:30-2:30 Bartlett 309

Kuhelika Mali

<u>km1548@scarletmail.rutgers.edu</u> Meetings by appointment

Course learning goals: By the end of this course, you should be able to:

- 1. Identify the major feedstuffs used in animal diet formulation
- 2. Apply basic nutrition principles to conduct a successful feeding trial
- 3. Determine the nutrient requirements of animals in different physiological states
- 4. Use this information to balance a ration

<u>Undergraduate teaching assistants:</u>

If you're interested in serving as an undergraduate TA in future semesters, you will need to enroll in the 11:067:411 Studies in Animal Science course. You will also need:

- 1. A grade of B or better in **both** Animal Nutrition lecture and lab
- 2. A cumulative GPA of 3.000 or higher
- 3. A letter of support from your graduate TA recommending you for the position

Being an undergraduate TA is a great opportunity to gain some teaching experience and bolster your resume. Additionally, you will gain 1.5 experience-based credits. If you are interested, please ask your graduate TA to provide you with a recommendation before spring classes start. Students who are selected will be notify prior to preregistration for the fall semester so they can adjust their class schedules accordingly.

Schedule of classes:

Week	Date	Topic	Complete before class	During class	Assignment due dates
1	Sep. 12, 13, or 14	Introduction to feedstuffs and NRC tables	Read "Intro to feedstuffs and NRC tables" protocol	Lecture on intro to feedstuffs In-class assignment utilizing NRC tables and forage analysis report	End of class: Intro to Feedstuffs and NRC Tables In- class assignment
2	Sep. 19, 20, or 21	Poultry nutrition & introduction to chicken growth trial	Read "Poultry nutrition & intro to chicken growth trial" protocol	Lecture on growth trials and poultry nutrition Visit the brooder barn, assign times to feed/weigh	Before Class: Quiz 1 End of class: Sign up for volunteer slots for the growth trial
3	Sep. 26, 27, or 28	Turning plants into feeds	Read "Turning plants into feeds" protocol Review optional video	Lecture on silage, WSCs, and making a standard curve Generate silage	Before Class: Quiz 2
4	Oct. 3, 4, or 5	Introduction to feed math and dry matter determination	Read "Intro to feed math and dry matter determination" protocol	Lecture on feed math and dry matter determination In-class assignment on feed math, percentages, and unit conversion	Before Class: Quiz 3 End of class: Introduction to Feed Math In-class assignment
5	Oct. 10, 11, or 12	Swine nutrition & Ration Balancing	Read "Swine nutrition" protocol	Lecture on swine nutrition, balancing rations, and solving two simultaneous equations In-class assignment balancing rations by hand	Before Class: Quiz 4 End of class: Swine Nutrition Inclass Assignment
6	Oct. 17, 18, or 19	Turning Plants into Feeds Reprise	Read "Turning plants into Feeds Reprise" protocol Review optional video	Lecture on WSC assay Conduct WSC assay with silage Generate standard curve with data	Before Class: Quiz 5 & Swine Nutrition Homework End of Class: Turning Plants into

					Feeds Reprise In-
					class assignment
7	Oct. 24, 25,	Growth Trial	Read "Growth Trial	Lecture on analyzing	Before Class:
	or 26	Reprise	Reprise" protocol	data	Quiz 6
				Compile class data	End of class:
					Growth Trial
				In-class assignment of	Reprise In-class
8	Oct 31, Nov	Evalorino	Dood "Explosing	growth trial data Lecture on GI tract	assignment Before Class:
	1, or 2	Exploring digestion and	Read "Exploring digestion and GI tract	anatomy in rats,	Quiz 7 & Results
	1, 01 2	gastrointestinal	anatomy" protocol	rabbits, and birds	Section Draft
		tract anatomy	Review optional	Dissection of GI tract	End of class: In-
			videos	of rat, rabbit, and	class assignment
			110000	chicken	- cimes assignment
9	Nov. 7, 8, or	Ruminal	Read "Ruminal	Lecture on ruminal	Before Class:
	9	development &	development & dairy	development & dairy	Quiz 8 &
		dairy cattle	cattle nutrition"	cattle nutrition	Discussion Section
		nutrition	protocol		Draft
				In-class assignment	
				balancing rations via	End of class: In-
				Spartan Dairy	class assignment
10	Nov. 14, 15,	Beef cattle &	Read "Beef cattle &	Meet at the	Before Class:
	or 16	sheep nutrition	sheep nutrition" protocol	Roundhouse	Quiz 9
				Visit Hyacinth at the	End of class: In-
			Review videos	farm & observe ruminal microbes	class assignment
				Body condition	
				scoring of cattle	
				demonstration	
11	Nov. 28, 29,	Equine nutrition	Read "Equine	Lecture on key	Before Class:
	or 30		nutrition" protocol	principles of equine	Quiz 10
			_	nutrition	
					End of class: In-
				In-class Assignment	class assignment
12	Dec. 5, 6, or	Companion	Read "Companion	Lecture on key	Before Class:
	7	animal nutrition	animal nutrition"	concepts in	Quiz 11 & Final
			protocol	formulating and selling diets for	Lab Report
				companion animals	End of class: In-
				1	class assignment
				In-class assignment	