ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specifications
(CS)

ANPR 338 - Ruminant Nutrition

Dr. Ahmed M. El-Waziry
Instructor

Course Specifications

Institution	Date of Report
King Saud University	12/2013
College/Department **College of Food and Agriculture Sciences, Animal Production**	

A. Course Identification and General Information

1. Course title and code: **ANPR 338: Ruminant Nutrition**

2. Credit hours **3(2+1)** Credits

3. Program(s) in which the course is offered.
(If general elective available in many programs indicate this rather than list programs)
Agricultural science programs

4. Name of faculty member responsible for the course
Dr. Ahmed M. El-Waziry

5. Level/year at which this course is offered **6th level**

6. Pre-requisites for this course (if any)
BIOC 101 (ANPR 413)

7. Co-requisites for this course (if any)
N/A

8. Location if not on main campus
N/A

9. Mode of Instruction (mark all that apply)

a. Traditional classroom	X	What percentage?	100%
b. Blended (traditional and online)		What percentage?	
c. e-learning		What percentage?	
d. Correspondence		What percentage?	
f. Other		What percentage?	

Comments:

B Objectives

1. What is the main purpose for this course?
- Identify the scientific terms used in ruminant nutrition.
- Identify backgrounds in ruminant nutrition.
- Definition of student classifies ruminants.
- Rumen Microbiology.
- Identify the metabolism in the rumen.
- Knowledge of the economic importance of animal and poultry products.
- Chemical analysis of feedstuffs.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
- Electronic materials and computer based programs have been utilized to support the lecture course material.
- The field experience in ruminant nutrition.

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Classification of ruminants	1	2
Rumen microbiology	1	2
Factors affecting microbial population of the rumen	1	2
Fermentation of carbohydrates	3	6
Protein	2	4
lipids	1	2
Vitamins and Minerals metabolism	3	6
Nutrient requirements of ruminants	1	2
Malnutrition and metabolic disturbances in ruminant animals	1	2
Laboratory and Practical		14

	Total	42

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	28	Non	7	7	Personal reading	42
Credit	3	N/A	N/A	N/A	N/A	3 Credits

3. Additional private study/learning hours expected for students per week. ☐
Personal reading.

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

- A brief summary of the knowledge or skill the course is intended to develop;
- A description of the teaching strategies to be used in the course to develop that knowledge or skill;
- The methods of student assessment to be used in the course to evaluate learning outcomes in the domain concerned.

Course Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning, assessment, and teaching.

The ***National Qualification Framework*** provides five learning domains. Course learning outcomes are required. Normally a course has should not exceed eight learning outcomes which align with one or more of the five learning domains. Some courses have one or more program learning outcomes integrated into the course learning outcomes to demonstrate program learning outcome alignment. The program learning outcome matrix map identifies which program learning outcomes are incorporated into specific courses.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. **Fourth**, if any program learning outcomes are included in the course learning outcomes, place the @ symbol next to it.

Every course is not required to include learning outcomes from each domain.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge**		
1.1	Recognize the global and local livestock industry.	Lecture-discussion	Written test
1.2	Recognize the requirements of production and scientific terms used.	Lecture-discussion	Written test
1.3	Recognize the problems of animal production.	Lecture-discussion	Written test
1.4	Recognize the developments and trends in production systems.	Lecture-discussion	Written test
2.0	**Cognitive Skills**		
2.1	Compare the properties of farm animals and poultry.	Lecture-discussion	Written test
2.2	Explain the scientific terms and rolling domestic use.	Lecture-discussion	Written test
3.0	**Interpersonal Skills & Responsibility**		
3.1	Develop the student to accept the view of other participant.	Lecture-discussion	Paper-pencil activity
3.2	Know what the response of the student to the assigned tasks.	Role playing Group discussion	Paper-pencil activity evaluation
4.0	**Communication, Information Technology, Numerical**		
4.1	Evaluate the Use of computer to follow the development of science in animal care.	Group discussion	Evaluation Form Self and group
4.2	Evaluate the Use of computer to identify the terms in Arab and foreign study.	Group discussion	Evaluation Form Self and group
4.3	Evaluate the Use of computer to identify the sources of information.	Group discussion	Evaluation Form Self and group
5.0	**Psychomotor**		
5.1	N/A	N/A	N/A
5.2			

Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching

NQF Learning Domains	Suggested Verbs
Knowledge	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
Cognitive Skills	estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyze, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise

Interpersonal Skills & Responsibility	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write
Communication, Information Technology, Numerical	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize
Psychomotor	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble,

Suggested ***verbs not to use*** when writing measurable and assessable learning outcomes are as follows:

Consider Maximize Continue Review Ensure Enlarge Understand
Maintain Reflect Examine Strengthen Explore Encourage Deepen

Some of these verbs can be used if tied to specific actions or quantification.

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quizzes	All along	10%
2	1st Midterm exams	6	20%
3	Participation	All along	10%
4	2nd Midterm exams	13	20%
5	Final exam	14	40%
6		Total	100%
7			

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The instructor is available for student consultation and academic advice on the following days:

Sunday- Tuesday- Thursday: 10-11 AM.
Monday – Wednesday: 10-12 AM.
E-mail: aelwaziry@ksu.edu.sa
Office No. 68S039
Office Tel. 46 93317 Mobile: 0595239079
Office: Food and Agriculture Science, 2nd Floor New Bldg.

Note: Students can set an appointment with the instructor via email or by phone.

E. Learning Resources

1. List Required Textbooks

Physiology of digestion and feeding of ruminants, 2nd Edition, D. C. Church. (1986)

Basic Animal nutrition and feeding, 5th Edition, W.G. pond, D. C. Church, K.R. Pond and P.A. Schoknecht. (2005)

2. List Essential References Materials (Journals, Reports, etc.)

El-Waziry, A.M., 2007. Nutritive value assessment of ensiling or mixing acacia and atriplex using in vitro gas production technique. Res. J. Agric. & Biol. Sci., 3: 605-614.

El-Waziry, A.M., M.E.A. Nasser and S.M.A. Sallam, 2005. Processing methods of soybean meal. 1- Effect of roasting and tannic acid treated-soybean meal on gas production and rumen fermentation in vitro. J. Appl. Sci. Res., 1: 313-320.

El-Waziry, A.M., M.E.A. Nasser, S.M.A. Sallam, A. L. Abdalla and I.C.S. Bueno, 2007. Processing methods of soybean meal. 2. Effect of autoclaving and quebracho tannins treated-soybean meal on gas production and rumen fermentation in vitro. J. Appl. Sci. Res., 1: 17-24.

Menke, K.H. and H. Steingass, 1988. Estimation of the energetic feed value obtained from chemical analyses and gas production using rumen fluid. Anim. Res. Develop., 28: 7-55.

Menke, K.H., L. Raab, A. Salewski, H. Steingass, D. Fritz and W. Schneider, 1979. The estimation of the digestibility and metabolisable energy content of ruminant feeding stuffs from the gas production when they are incubated with rumen liquor. J. Agric. Sci., 93, 217–222.

Ørskov, E.R. and I. McDonald, 1979. The estimation of protein degradability in the rumen from incubation measurements weighted according to rate of passage. J. Agric. Sci., 92: 499-503.

Onodera, R. and C. Henderson, 1980. Growth factors of bacterial origin for the culture of rumen oligotrich protozoon, Entodinium caudatum. J. Appl. Bacteriol., 48: 125-134.

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

- J. Anim. Sci.
- J. Dairy Sci.
- Small Ruminant Research

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

- Science Direct

- Springer Link - Blackwell
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture room with at least 30 seats. The room is equipped with adequate study materials, such as computers.
2. Computing resources (AV, data show, Smart Board, software, etc.) Computer, OHP and Data show
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) None

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching - Resolutions. - Results. - The opinion of Professor subsequent requirement. - Measurement of the evolution of the student.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor - Presentation of the results of a group of students to an external arbitrator. - Measuring the quality of the graduates through their sites, and through resolutions.
3 Processes for Improvement of Teaching – Develop the capacity of professor by training programs. – To ensure the availability the teaching aids. – Follow-up, any improvement to the course. – Create the right atmosphere for the study. – Make teacher student relationship of paternity. – Material and moral incentives.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

None

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Others teachers to be consulted
- To host a visiting professor to evaluate the decision.
- Workshops for teachers' decision.
- Periodic meetings with students for the best positive and negative aspects in the decision.
- Re-consideration of the course to be every four years.

Faculty or Teaching Staff: **Dr. Ahmed M. El-Waziry**

Signature: _____ **Date Report Completed: 12/2013**

Received by: _____ **Dean/Department Head**

Signature: _____ **Date: _____**