



**ATTACHMENT 2 (e)**

**Course Specifications**

**Kingdom of Saudi Arabia**

**The National Commission for Academic Accreditation & Assessment**

**Course Specifications**

**ANPR 460: Feed and Feed Formulation for Poultry and Ruminants**

**Dr. Mutassim Mohamed Abdelrahman**  
**Instructor**



## Course Specifications

Institution	King Saud University.	Date of Report	2/2014
College/Department : Food and Agriculture Sciences / Animal Production.			

### A. Course Identification and General Information

1. Course title and code: <b>ANPR 460: Feed and Feed Formulation for Poultry and Ruminants</b>			
2. Credit hours <b>2 credit hours</b>			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs)  Animal Production.			
4. Name of faculty member responsible for the course Dr. Mutassim Mohamed Abdelrahman			
5. Level/year at which this course is offered <b>Eighth level/Fourth year.</b>			
6. Pre-requisites for this course (if any) ANPR 334 and ANPR 338			
7. Co-requisites for this course (if any) None.			
8. Location if not on main campus -			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
<b>Comments:</b> This course is very important for the student graduated from animal production department. It covers an important issues related to livestock productivity in term of feeding and covering their nutrient requirements. The course divided to two parts, the lectures and laboratory work in the Animal nutrition labs. Mode of instruction is mainly a class room and the lab. Many feed analysis techniques cover through the course and many ration formulation assignments for different species through computer program develop and discuss.			



## B Objectives

<p>1. What is the main purpose for this course?</p> <ul style="list-style-type: none"> <li>This main purpose of this course is to provide a solid background of the livestock requirements, rations formulations, quality control standards, feedstuff analysis and recent advances in feed processing and production technology and describe the effects processing has on feedstuffs.</li> </ul>
<p>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)</p> <ul style="list-style-type: none"> <li>The results of recent scientific research article in the area of livestock feeding and nutrition which published have been utilized to update and support the course.</li> <li>New developed ration formulation soft ware will be introduced to improve the quality and accuracy of ration formulation for livestock.</li> <li>Introduce new analytical equipments for feed analysis.</li> </ul>

## 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
Introduction and expectation of the course	1	3
Nutrient classes and feed additives	2	6
Feed analysis and evaluation	2	6
Feed classification for ruminants (Concentrates and Roughages)	1	3
The utilization of feedstuffs by farm animals	2	6
Forage processing (chopping, baling, silage and hay making, storage)	1	3
Nutritive and feeding values of various feed ingredients	1	3
Improving feed value of fibrous plant by-products	1	3
Feed processing and production technology	1	3
Feeding poultry	2	6
Ration formulation using a least cost computer program	2	6
	Total	48



2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	16	N/A	32	N/A	N/A	48
Credit	1	N/A	1	N/A	N/A	2 Credits

3. Additional private study/learning hours expected for students per week.	32
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy
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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
<b>1.0</b>	<b>Knowledge</b>		
1.1	Describe the all feed ingredients that use in poultry and ruminants animals, their evaluation and potential limitations in feeding.	Lecture-discussion	Written test
1.2	Recognize the positive and negative effect of feed processing and production technology on animals' performance.	Lecture-discussion	Written test
1.3	Memorize the main feeding guidelines associated with the various types of livestock.	Lecture-discussion	Written test
1.4	Write the rules associated with least-cost ration formulation to cover animals' nutrient requirements at different physiological status.	Lecture-discussion	Written test
<b>2.0</b>	<b>Cognitive Skills</b>		
2.1	Develop the concept of feeding strategies in the real life practices.	Group discussion	Written test Case Study
2.2			
3.3			
<b>3.0</b>	<b>Interpersonal Skills &amp; Responsibility</b>		
3.1	Show efficiency in working independently and with groups.	Group discussion	Rubric Assessment
3.2	Illustrate high ability to manage resources and time.	Group discussion	Rubric Assessment
<b>4.0</b>	<b>Communication, Information Technology, Numerical</b>		
4.1	Demonstrate using efficiently computer software for ration formulations	Paper-pencil activity	Paper-pencil-self-evaluation
4.2	Demonstrate professionalism in report writing and presentations	Paper-pencil activity	Paper-pencil-self-evaluation
<b>5.0</b>	<b>Psychomotor</b>		
5.1	NA	NA	NA
5.2			

**Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching**

NQF Learning Domains	Suggested Verbs
<b>Knowledge</b>	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
<b>Cognitive Skills</b>	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
<b>Interpersonal Skills &amp; Responsibility</b>	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write
<b>Communication, Information Technology, Numerical</b>	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize
<b>Psychomotor</b>	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble, experiment, and reconstruct

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	Class and lab activities ( in class and labs quizzes, and homework assignments)	Weekly	30%
2	Midterm examination	10 <sup>th</sup> Wk	20%
3	Attendance and presentations	During the semester	10%
4	Final exam	16 <sup>th</sup>	40%
		Total	100%



#### 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 advise on the following days:

Sunday- Monday: 10:00 – 11:00  
Tuesday- Wednesday 10:00 – 11:00  
Email: amutassim@ksu.edu.sa  
Office number: 4693309 Mobile: 0566194484  
Office: College of Agriculture, 2<sup>nd</sup> Floor, 68S046 New Build.

Students are welcome to call to set an appointment with the instructor.

#### E. Learning Resources

##### 1. List Required Textbooks

- Animal Feeding and Nutrition (2013). Jurgens Marshal H., et al. (editors, Kendall Hunt Publishing.
- McDonald, P., R.A. Edwards, J.F.D. Greenhalgh and C.A. Morgan. 1995. Animal Nutrition Fifth Edition. Longman, United Kingdom.
- Scott, M.L., Nesheim, M.C. and Young, R.J. (1982). Nutrition of the Chicken, 3<sup>rd</sup> Edition. Cornell University, Ithaca, NY.

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

- Animal Feeds, Feeding and Nutrition, and Ration Evaluation. First edition. (2005). David Tisch (Editor), Cengage learning publishing.

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

- Journal of Small Ruminant Research
- Feed science and Technology
- Animal Science Journal
- Poultry Science Journal

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

NA

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- Ration formulation software such as Mixit, NRC and other computer programs.



## 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.) <ul style="list-style-type: none"><li>• Lecture room with at least 30 seats.</li><li>• Animal nutrition laboratory with all equipment required for feed composition analysis.</li></ul>
2. Computing resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none"><li>• A computer room with 20 PC, 1 data projector, and 1 network printer.</li><li>• Ration formulation computer software.</li></ul>
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list). Laboratory equipments needed are: <ol style="list-style-type: none"><li>1. Ovens</li><li>2. Muffle Furnace</li><li>3. Kheldyhal apparatus</li><li>4. Soxelt for fat extraction</li><li>5. Fibertech.</li><li>6. Atomic Absorption Spectrophotometry.</li><li>7. Spectrophotpmeter</li><li>8. Grinder</li><li>9. Freezer.</li></ol>

## G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"><li>• Course evaluation by student.</li><li>• Students- faculty meetings</li></ul>
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor <ul style="list-style-type: none"><li>• Peer consultation on teaching.</li><li>• Departmental council discussions.</li></ul>





- Discussions within the group of faculty teaching the course.

3 Processes for Improvement of Teaching

- Conducting workshops given by experts on the teaching and learning Methodologies.
- Periodical departmental revisions of teaching method and strategies followed.
- Monitoring of teaching activates by the head of the department.

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)

- Providing samples of the methods used in assessing students.
- Assigning group of faculty members teaching the same course to assess the same questions for various students.
- Random selection of examination samples to be reviewed in term of marks and fairness.

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

- The course material and learning outcomes are periodically reviewed and changes to be taken are approved in the departmental and higher councils.

**Faculty or Teaching Staff:** Prof. Mutassim M. Abdelrahmab

**Signature:** \_\_\_\_\_ **Date Report Completed:** \_\_\_\_\_

**Received by:** \_\_\_\_\_ **Dean/Department Head**

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_