



ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

**Course Specifications
(CS)**

ANPR 260: Animal Production and Poultry Housing: Environment and Control

**Prof. Dr. Ahmed Al-Haidary , Prof. Aly B. Okab Prof. Abdullelah Alfarag
Instructors**



Course Specifications

Institution King Saud University	Date of Report January, 2014
College/Department College of Food and Agriculture Sciences, Animal production Department	

A. Course Identification and General Information

1. Course title and code: Animal Production and Poultry Housing: Environment and Control - ANPR 260		
2. Credit hours 3 hours		
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) BA - Animal production Sciences		
4. Name of faculty member responsible for the course Prof. Dr. Ahmed Al-Haidary , Prof. Aly B. Okab Prof. Abdullelah Alfarg		
5. Level/year at which this course is offered 5th level / 3rd year university students		
6. Pre-requisites for this course (if any) ANPR 106		
7. Co-requisites for this course (if any) None		
8. Location if not on main campus Main campus		
9. Mode of Instruction (mark all that apply)		
a. Traditional classroom	<input checked="" type="checkbox"/> What percentage?	50 %
b. Blended (traditional and online)	<input checked="" type="checkbox"/> What percentage?	50 %
c. e-learning	<input type="checkbox"/> What percentage?	
d. Correspondence	<input type="checkbox"/> What percentage?	
f. Other	<input type="checkbox"/> What percentage?	
Comments:		
<p>Animal Production and Poultry Housing: Environment and Control – (ANP 260) is an elective course that explain the behavioral and physiological responses to changes in ambient temperature and humidity; Calculation of heat production; Air properties; Psychometric charts; Gas pollutants and their impact on animal production; Ventilation, cooling and heating systems in farm animals and poultry farms; Importance of automated control systems applications in modern farm animals production.</p>		



B Objectives

<p>1. What is the main purpose for this course? At the end of the semester , students are expected to:</p> <p>1.1 Identify the animal's heat insulation and methodology and how calculate animal's heat balance.</p> <p>1.2 Describe the physiological and behavioral response to changeable heat and relative humidity.</p> <p>1.3 Effectively use all of physiological tools to evaluate animal's heat requirements.</p>
<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> <p>2.1 In the course, increase personal skills to use of IT or web-based reference material for newly environmental control and methodology.</p> <p>2.2 Students use Web-CT for uploading materials related to course contents.</p> <p>2.3 Changes in teaching methodology ranging from traditional to untraditional tools.</p>

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	1	3
Thermal Insulation in Animals	1	3
Heat Balance	1	3
Heat Requirments of Farm Animal	2	6
Behavioral and Physiologica Responses to Changes in Ambiant Temp. and Humidity	2	6
Calculation of Heat Production	2	6
psychrometric charts	1	3
gas pollutants and their impact on animal production	1	3
ventilation, cooling and heating systems in animal and poultry farms	2	6
control systems in modern animal production	2	6
Total	15 weeks	45 hours



2. Course components (total contact hours and credits per semester):						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	40	5	none	none	none	45
Credit	2.5 hr.	0.5 hr.	none	none	none	3 hours

3. Additional private study/learning hours expected for students per week.
10 hours for the semester (one day field trip/semester)

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

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	Define the methods and behavior of animal's insulation.	Lecture- discussion	Written test
1.2	Describe the methods of animal's heat balance and explain equations for calculations.	Lecture- discussion	Written test
1.3	List the physiological and behavioral responses to heat and relative humidity changes.	Lecture- discussion	Written test
1.4	Label direct and indirect environmental effects on animal productivity.	Lecture- discussion	Written test
2.0	Cognitive Skills		
2.1	Summarize animal environment features.	Lecture and discussion	Rubric Assessment
2.2	Calculate animal's heat balance.	Lecture-discussions	Case Study
2.3	Estimate the negative effects of environmental factors on animal productivity and performance.	Lecture-discussions	Written test
3.0	Interpersonal Skills & Responsibility		
3.1 3.2	Illustrate general and specific characterization of animal environment. Appraise animal behavior in different heat stress.	Group discussion	Case Study
4.0	Communication, Information Technology, Numerical		
	Illustrate field experience relate to environmental stress and animal performance.	Group discussion	Case Study
5.0	Psychomotor		
	N/A	N/A	N/A

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	demonstrate, calculate, illustrate, interpret, research, question, operate,



Technology, Numerical	appraise, evaluate, assess, and criticize
Psychomotor	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	1 st midterm exam.	Week 6	20%
2	Participation	All along	10%
3	Presentations and/or papers	At the end	10%
4	2 nd midterm exam.	Week 12	20%
5	Final	Week 15	40%
6	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:

2 hour per course per week

Email: ahaidary@ksu.edu.sa

Office number: 4678473 Mobile: 0505483422

Office: College of Agriculture, 2nd Floor, 1A2.

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

E. Learning Resources

1. List Required Textbooks

- **Environmental Physiology of Animals.**
- **Environmental Physiology of Livestock.**
- **Stress, Stress Hormones and the Immune System.**

2. Essential References

Al Ghumlas, A.K., AM. Abdel Gader, MF., Hussein AA., Alhaidary and J.G., White. Effect of heat on camel pletlet structure and function- a comparative study with humans. *Platelets* 2008. 19(13):163-171

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Al-Haidary A., Al-Hassan M., 2003. Effect of rationalization of water consumption for evaporative cooling on productivity of dairy cattle. *Indian Journal of Animal Science. India.*; 6, 695-698.

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Al-Haidary, A. A., A. Al-Soghier and M. Alshaikh., 2002. Effect of niacin supplementation on Holstein cattle performance during summer months. Journal of King Saud University.,; 14, 221-234.

Al-Haidary, A. A., A. Al-Soghier and M.A. Alshaikh., 2003. Influence of niacin supplementation on thermoregulatory responses and performance of Holstein cattle during summer months . Journal of King Saud University.,; 115, 3-25.

Al-Haidary, A. A., Spiers, D. E., Rottinghaus, G. E., Garner G. B., Ellersieck. M.R., 2001. Thermoregulatory ability of heifers calves following intake of endophyte-infected tall fescue during control heat challenge. Journal of Animal Sciences.,; 79, 1780-1788.

Al-Haidary, A., 2002. Telemetric monitoring of core body temperature of Arabian camel under Saudi Arabia condition. Research Center of agriculture, King Saud University.,; 108, 5-18.

Al-Haidary, A.A, A M. Al-Soghier and M.A. Alshaikh., 2002. Effect of heat stress on milk production and some thermoregulatory responses of high producing Holstein cattle in semi-arid environment. Journal of King Saud University.,; 14, 45-54.

Ali A. K., Alessa A. A., Alshaikh M. A., Aljumaah R. S., Al-Haidary A. A., Alkraidees M. S., 2005. Odds ratio and probability of conception of Holstein Friesian dairy cows in the Kingdom of Saudi Arabia. Asian-Australasian Journal of Animal Sciences. Australia.,; 3, 308-313.

E. M. Samara, A. B. Okab, K. A. Abdoun, A. M. El-Waziry, A. R. AL-Himaidi, A. A. Al-Haidary, and A. C. Beynen (2013). The subsequent influence of feeding intact seaweed *Ulva lactuca* to growing lambs on the reproductive performance of sexually matured rams. Journal of Animal Science, vol.91no. 12: 5654-5667.

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Abdoun, K.A., Samara, E.M., Okab, A.B., Al-Haidary, A.A. (2012). State of acid-base balance in dehydrated camels (*Camelus dromedarius*). Asian Journal of Animal and Veterinary Advances, 7 (5): 420-426.

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Ondruska L., Rafay J., Okab A.B., Ayoub M.A., Al-Haidary A.A., Samara E.M., Parkanyi V., Chrastinova L., Jurcik R., Massanyi P., Lukac N., Supuka P. (2011). Influence of elevated ambient temperature upon some physiological measurements of New Zealand White rabbits. Veterinarni Medicina, 56,(4): 180-186.

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Shubhadeep Roychoudhury, Peter Massanyi, Jaroslav Slamecka, Ivan Chlebec, Jozef Trandzik, Jozef Bulla, Aly B. Okab, Taha A. Taha, Mohamed H. Salem, Mostafa A. Ayoub (2009). In vitro gossypol induced spermatozoa motility alterations in rabbits. J. Environmental Science and Health, Part B (UK), 44, 730-741.

Okab A.B., El-Banna S.G. and Koriem A. A. (2008). Influence of Environmental Temperatures on Some



Physiological and Biochemical Parameters of Male New-Zealand Rabbits. Slovak J. Anim. Sci. Vol. 41 (1): 12-19.
Okab A. B. (2007). Semen Characteristics and Plasma Testosterone of New-Zealand Male Rabbits as Affected by Environmental Temperatures. Slovak J. Anim. Sci. Vol. 40 (4): 161-167.
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
- Journal of Endocrinology. - Journal of Dairy Science. - Journal of Animal Science. - Journal of Arid Environments.
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)
- Science Direct - Springerlink - Blackwell Synergy
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.) Technician lab needed
2. Computing resources (AV, data show, Smart Board, software, etc.) Laptop computer - projector system - data show
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Core body, Skin and Rectal temperature measurement devises Meteorological measurements (Ambient temperature, Relative Humidity, Wind Speed, and Solar Radiation) Infra-Red Thermograph Technology <i>Must be updated</i>

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching
1.1 Midterm evaluation feed-back form to increase instructor's awareness of the weak and strong points of the class
1.2 End of term college evaluation of course by students (to be collected by the department)
1.3 End-of-term debriefing in class of students and teacher regarding what went well and what could have gone better



1.4 Small group instructional diagnosis (SGID) whereby instructors exchange classes and gather information from each others' students on specific points outlined by the department and the instructor being evaluated
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor 2.1 Peer evaluation to asses ability of faculty members to work with their colleagues 2.2 Cass observations by supervisors
3 Processes for Improvement of Teaching 3.1 Use of Course Evaluation Results provided by the department head. 3.2 Continuous update of information about environmental physiology and animal housing using print and electronic media. 3.3 Use of evaluation results based on Peer evaluation.
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. 5.1 The instructor reviews and updates teaching materials to be used in the following semester. These include the syllabus, class template activities, and class handouts. 5.2 Compare syllabi and course description with other universities (including those on the web pages) 5.3 Biannual meetings of faculty members to discuss improvement 5.4 The instructor receives feedback from the department results of the Course Evaluation Survey as well as Peer Evaluation. Occasional written suggestions are also provided by students. All these feedback and suggestions are taken into consideration in reviewing course effectiveness and planning for improvement. 5.5 Have a curriculum review committee to review the curriculum periodically and suggest improvements
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Faculty or Teaching Staff: _____

Signature: _____ **Date Report Completed:** _____

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

Signature: _____ **Date:** _____