Course Specification
(Bachelor)

Course Title:	**Animal Behavior**
Course Code:	**BIO 1455**
Program:	Bachelor of Science in Biology
Department:	Biology
College:	Science
Institution:	Imam Mohammad Ibn Saud Islamic University
Version:	*Course Specification Version Number*
Last Revision Date:	*Pick Revision Date.*

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A. Course Identification

1. Credit hours:	3 (2Lectures + 2 Laboratory + 0 Tutorials).
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☐ Elective ☑
3. Level/year at which this course is offered:	Level seven / Fourth Year
4. Pre-requisites for this course (if any)**:**	Principles of Environmental Impact Assessment – Bio252.
5. Co-requisites for this course (if any)**:**	None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	√	70%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**	√	30%

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

The scientific study of the mechanistic and evolutionary causes of animal behavior, including communication, foraging and anti-predator behavior, spatial behavior, mating behavior, parental care, and social behaviors.

2. Course Main Objective

By the end of this course, students should be able to:

- Distinguish between the four types of questions that may be asked about animal behavior, and formulate hypotheses of each type to explain a given behavior.
- Explain how behavioral hypotheses are formulated, the procedures used to test them, and the types of data that can be collected.
- Understand some of the mechanisms involved in the production of a behavioral sequence by an animal.
- Understand the role of natural and sexual selection in the evolution of behavior.
- Explain how these principles can be used to understand human behavior.
- Explain the relationship between hormones and behavior.

State the correlation between genetics and behavior.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	To define the scope and function of hormones and animal behavior.	1.1
1.2	To write about methods how some of the mechanisms involved in the production of a behavioral sequence by an animal.	1.1-1.2
1.3		
1...		
2	**Skills :**	
2.1	To estimate how to recognize and identify the relationship between cause and effect in behavior.	2.1
2.2	To explain how to classify patterns of behavior of animals.	2.1
2.3	To compare between the patterns of different animals' behavior.	2.1
2...		
3	**Values:**	
3.1	To evaluate group leadership skill and to evaluate the responsibility.	2.3
3.2	To prepare appropriate tools and use correct manner.	3.1-3.2
3.3	To manipulate the operation and use of computers and means of modern technology.	3.3
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to practical subjects and Laboratory of Animal behavior.	2
2	How to observe animal behavior? Learning to describe and quantify animal behavior. Making comparison of behaviors and data recording.	2
3	Causation: Behavioral Thermoregulation in Field Populations of Amphibian Larvae. Observing and Analyzing Human nonverbal Communication.	2
4	Foraging: Foraging behavior of ants: an ant's eye view. bird foraging patterns: experiments using artificial flowers. Honey bee foraging behavior.	4
5	Development: The effect of prenatal visual stimulation on the imprinting responses of domestic chicks: An Examination of sensitive periods during development.	2
6	Adaptation birds: A field study of bird's adaptation. Seed selection by foraging birds Competitive behavior of birds at feeders.	2
7	Avoiding predators: Vigilance and the group –size effect: observing behavior in humans. Vocal defense of nestlings. Diving and skating in Whirligig Beetles: Alternative antipredators responses.	2
8	Agonistic behavior: Competition for breeding resources by burying beetles.	2

	Learning to be winners and losers: Agonistic behavior in crayfish.	
9	Courtship and parental care: Vocal behavior and mating tactics of the spring Peepers: a field exercise in animal behavior. The role of multiple male characters in mate choice by female guppies. Investigating human mate choice using the Want ads.	4
10	Games: Demonstrating strategies for solving the Prisoner's Dilemma. Using empirical games to teach animal behavior in mice.	2
11	A study of some organisms like mice or fish in basins or the behavior of poultry or rabbits are in the animal house or note some camels in farms and their response to some effects, such as food and competition and others.	4
12	General revision.	2
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	To define the scope and function of hormones and animal behavior.	Panel of discussions and dialogue, including discussion of small groups.	• Written tests. • Oral tests.
1.2	To write about methods how some of the mechanisms involved in the production of a behavioral sequence by an animal.	Laboratory method process (experiments) and view reports.	Work – papers and research papers.
…			
2.0	**Skills**		
2.1	To estimate how to recognize and identify the relationship between cause and effect in behavior.	Mental focus.	Performance of written tests.
2.2	To explain how to classify patterns of behavior of animals.	To explain how to classify patterns of behavior of animals.	Identification tests.
2.3	To compare between the patterns of different animals' behavior.	Find the collective research.	Performance mimicry tests.
3.0	**Values**		
3.1	To evaluate group leadership skill and to evaluate the responsibility.	Teaching colleagues.	Self-report methods.
3.2	To prepare appropriate tools and use correct manner.	Simulation and Process presentations.	Laboratory reports.
3.3	To manipulate the operation and use of computers and means of modern technology.	Default- laboratories Illustrated presentations.	Recording student performance.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm 1	Around 6th -7th week	15%
2	Midterm 2	Around 11th -12th week	15%
3	Quizzes, Attendance, Participation, Home works.	All the semester	10 %
4	Lab reports.	All the semester	5%
5	Lab Exam.	Around 15th week	15 %
6	Final Exam.	Around 15th -16th week	40 %
7	Total		100%
8			

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :
Personal office hour.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	• Shawn E.Nordell and Thomas J. Valone(2013) : Animal Behavior; Concepts, Methods, Applications,1e.Oxford University Press. • Drickamer, Lee C., Stephen H. Vessey, and Elizabeth Jakob. 2002. *Animal Behavior: Mechanisms, Ecology, and Evolution.* Fifth edition. McGraw-Hill Publishers. ISBN 9780070121997.
Essential References Materials	• Brown R, Payne A, Graham KK and Starks PT. 2012. Prey capture and caste-specific payload capacities in the European paper wasp *Polistes dominulus*. *Insectes Sociaux*. 59: 519-525. • Chadwick V. Tillberg, Michael D.Breed,and Sarah J. Hinners (2007) : Field and Laboratory Exercises in Animal Behavior 1st edition ,ISBN-13:978-0123725820 Bonnie J.Ploger and Ken Yasukawa (2003):Exploring animal Behavior in laboratory and Field,An Hypothesis-testing Approach to the Development,Causation,Function,and Evolution of Animal behavior 1st edition,ISBN-13978- 0125583305. • Chrastil ER, Getz WM, Euler HA and Starks PT. 2006. Paternity Uncertainty Overrides Sex Chromosome Selection for Preferential Grandparenting. *Evolution & Human Behavior*. 27: 206-223.

	• Dawkins R. (1982) Replicators and vehicles. pp. 45-64 in *Current problems in sociobiology*, (Kings College Sociobiology Group, ed.) Cambridge Univ. Press.
Electronic Materials	WWW Resources: *http://www.cbu.edu/~aross/animbeh/Animal_Behavior.htm.*
Other Learning Materials	CD containing programs special for Behavioral concepts.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms reserved for lectures and prepared the traditional education (face to face) and E-learning (E-learning) that allow interaction between teachers and students, ordinary paper blackboard smart plasma screens ... etc. A (Stage), with an integrated audio system and microphones connected to the Internet and networks 2 Wired and wireless (optical fiber), and air conditioning system and modern suitable lighting. Hall dedicated to educational films with moving chairs and a DVD player, and TV. 60-inch (conditioning system with a modern and appropriate lighting.). Laboratories equipped with the latest electrical appliances, chemical and all chemicals and tools Safety and means to study the practical courses. Hall dedicated to lectures e-learning.
Technology Resources (AV, data show, Smart Board, software, etc.)	• A computer for display and uses of data with a slide show presentation. • High-device "projectors" Lighting. • It is assumed that each student has its own computer.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	A. Specific laboratory equipment for this course including posters, models of different experimental animals, dissection instruments, light microscopes, dissection microscopes, microtome instrument, slide preparations, mixer, fluorescent microscopes, spectrophotometer, instrument of gel electrophoresis, hematocrit centrifuge, automated CBC analyzer, centrifuges, incubators, ovens, other glass wares special for hematology and automated micropipettes. B. Animal house is equipped with especially-factors in terms of temperature control - brightness - the existence water basins - appropriate cages and specialists to deal with the

Item	Resources
	animals.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
At the end of the course each student will complete an evaluation form which it will be used by the faculty to evaluate the course feedback and the instructor.	Students	Direct
At the end of each semester the course coordinator completes a report, including a summary of student questionnaire responses appraising progress and identifying changes that need to be made if necessary.	Course coordinator	Direct
Reviewing the course reports submitted at the end of each semester.	Peer Reviewer	Indirect
Follow up of faculty members by specialized committees devoid of bias and criticism.	Specialized committees	Indirect
Check a sample of marking by independent faculty member.	Faculty	Indirect
At the end of the course each student will complete an evaluation form which it will be used by the faculty to evaluate the course feedback and the instructor.	Students	Direct
At the end of each semester the course coordinator completes a report, including a summary of student questionnaire responses appraising progress and identifying changes that need to be made if necessary.	Course coordinator	Direct

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Head of biology department
Reference No.	
Date	