



Course specification

University/Academy: Damnhour

Faculty/Institute: Science

Department: Zoology

1. course Data:

Course code: Zool 202	Course title: Biology of vertebrates and Genetics	Academic year/2008/2009 level: Second year – 2 nd term.
Specialization: Program of biology group	No. of instructional units: lecture <input type="text" value="4hr"/> practical <input type="text" value="4hr"/>	

2. course Aim

- - Obtaining a broad spectrum on various vertebrate phyla from protochordates to mammals regarding their habitat, morphology, anatomy, lenvironmental adaptation and their economic importance.
- Knowledge and Understanding phylogenetic relations between these vertebrate groups.
- * Providing students with knowledge about the .
evolution of different classes of vertebrates
- Providing students with knowledge about dominance and recessiveness
- Developing the student's information



	<p>about the gene interactions.</p> <ul style="list-style-type: none">• Providing students with information about inheritance of blood groups , skin colour , sex – linked characters , lethal genes and crossing over of chromosomes.• Introduce a basic knowledge of molecular genetics to students.
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3. Intended learning outcome

a) Knowledge and understanding	<p>A1: Understand the general classification of vertebrates.</p> <p>A2: Describe the structural functional adaptation of different chordates.</p> <p>A3: List the specific characters of studied vertebrates.</p> <p>A4: Understand the genetic concepts.</p> <p>A5: Describe the different blood cells.</p>
b) Intellectual skills	<p>B1: Evaluate the nature of habitat of different taxsons.</p> <p>B2: Compare between the morphological structure of aquatic an terrestitial species</p> <p>B3: Determine the nature of feeding of different vertebrate species according to their internal anatomy.</p> <p>B4: Compare between different blood groups regardy inheritance concepts.</p> <p>B5: Discuss gene interactions and sex –</p>



	<p>linked characters.</p> <p>B6: Design chromosomal maps.</p>
c) Professional skills	<p>C1: Show the whole mount of available vertebrates in the lab.</p> <p>C2: Use light microscope to investigate the microscopic slides of different vertebrates.</p> <p>C3: Explain the variations in the fine structures of examined chordates.</p> <p>C4: Perform antigen – antibody interaction to determine blood groups.</p> <p>C5: Calculate genetic distance and draw chromosomal maps.</p> <p>C6: Explain sex-linked characters.</p>
d) General skills	<p>D1: Collect data from the internet</p> <p>D2: Make an essay in groups</p> <p>D1: Problem solving skills</p> <p>D2: Communicate and exchange ideas</p> <p>D3: Continuous self learning</p>
4. course content	<ul style="list-style-type: none">● <u>I-Vertebrate Biology</u>● An introduction on the general types of chordates in our environments● General classification of vertebrates from protochordates to mammals● Special characters and anatomy of amphioxus.



	<ul style="list-style-type: none">• Special characters, morphology and anatomy of urochordates and cyclostomates.• General characters , morphology and internal anatomy of chondrichthyes and osteichthyes• Special characters and morphology of amphibian.• General characters of reptiles and internal anatomy of <u>Chalcides</u>.• Structural functional adaptation of birds and internal anatomy of pigeon.• General classification of mammals and morphology as well as anatomy of rabbit.• <u>II-Genetics</u>• Dominance and recessive ness• Cene interaction• Lethal genes linkage• Crossing over• Chromosome map• Molecular genetics
<p>5. Teaching and learning methods</p>	<ol style="list-style-type: none">1. lectures and seminars.2. practical hours.3. discussions.4. semester work.5. case study



<p>6. teaching and learning methods for students with special needs</p>	
<p>7. Student Assessment</p>	
<p>a) Procedures used:</p>	<p>1. practical tests 2. final written tests</p>
<p>b) Schedule:</p>	<p>Assessment 1: Mid term week 7 Assessment 2: practical final week 12 Assessment 3: final written week 14 Assessment 4: quizzes week 4-6</p>
<p>c) Weighing of Assessment:</p>	<p>Mid-Term Examination: -----10--- ----- Final-Term Examination: -----200-- ----- Practical Examination: ----- -30--- ----- Semester Work: ----- 10--- ----- Total: 250</p>
<p>8. List of Textbooks and References:</p>	<p>*Anatomy of chordates *Vertebrates anatomy</p>
<p>a) Course Notes</p>	<p>-----</p>
<p>b) Required Books (Textbooks)</p>	<p>-----</p>



c) Recommended Books	-----
d) Periodicals, web sites,...,etc	Free encyclopedia (www.wikipedia.com)

Course Instructor: Dr.Abdel Fatah El- Beltagy

Head of Department:Prof . Karoline Kamel Abdel Aziz

Date: -----/-----/2009