Course specification

University/Academy: Damnhour

Faculty/Institute: Science

Department Zoology

1. course Data:		
Course code: **Zool 302**	Course title: Evolution and comparative anatomy.	Academic year 2009-2010 level: 2nd term \3rd year student
Specialization: Zoology	No. of instructional units: lecture 3hrs/ practical 4hrs	

2. course Aim	- Knowing the history of biological sciences (ancient period, middle period and recent period) - understand the rise of embryology , cytology , genetics , evolution and phylogeny . -Describe an introduction to comparative anatomy. -Recognize anatomy of the following chordates systems (Dermal, Skeletal, urinogenital, respiratory and nervous).
3. Intended learning outcome	
a) Knowledge and understanding	A1. Mention theories and concepts of Evolution A2. Describe structure of organ systems of vertebrates A3.Recognize development of various organs in vertebrates
b) Intellectual skills	B1. Discuss essential facts, concepts and theories of Evolution, and development of organ systems. B2. Capable of solving many problems concerning the functions of various organs and systems of body dealing with the rise evolution and phylogeny.
c) Professional skills	C1. Prepare their practical skills and understand the

	scientific approach in Zoology. C2. Perform skills that enable a harmonic working group.
d) General skills	D1: Communicate with each other for covering both written & oral tasks. D2: Exchange ideas, principles, and theories
4. course content	-Rise of Embryology -Introduction to Comparative Anatomy and Evolution of vertebrates. -Comparative study of coelom in chordates. -Dermal system in lower chordates. -Dermal system in fishes -Dermal system in amphibians and reptiles. -Dermal system in birds and mammals. -Structure and development of teeth. -Nervous system in chordates. -Comparative Anatomy of the skeletal system: Introduction on the skeletal system in vertebrates (axial and appendicular). -The vertebral column: general structure and development. -Evolution of the vertebral column beginning with the jawless fishes till mammals. -The Skull: development of chondrocranium, splanchnocranium, osteocranium, and dermatocranium. -The skull evolutionary trends in vertebrates: Evolution of roofing bones, the palatal complex , and the lower jaw. Phylogeny of jaw articulation and derivatives of tetrapod visceral arches. Comparative anatomy of the urinogenital and Respiratory systems in vertebrates.
5. Teaching and learning	4.1- Lecture

methods	4.2 - Practical 4.3- Problem-Based Learning. 4.4-Encourage students to use online and library resources
6. teaching and learning methods for students with special needs	• Data show projectors (LCD) • White boards and erasable markers • Equipment and Materials for laboratory study (Histological slides)
7. Student Assessment	
a) Procedures used:	7.1- **Final-Term Examination:** to assess student writing and drawing ability expressing his/her understanding of comparative anatomy and evolution 7.2- **Class activities** (reports, discussions, practical…etc): to assess the student intellectual, professional, practical and general and transferable skills
b) Schedule:	Assessment 1 **Practical Examination** Week 14 Assessment 1 **Final-Term Examination** at the end of the course
c) Weighing of Assessment:	Mid-Term Examination 15 7.5% Final-Term Examination 150 75% Oral Examination Practical Examinatio 25 12.5% Semester Work 10 5.0% other types of assessment Total 200 100%
8. List of Textbooks and References:	
a) Course Notes	----------
b) Required Books (Textbooks)	Hildebrand, M.(1988): Analysis of Vertebrate Structure. 3rd ed. John Wiley & Sons, Inc. New York.

	Kluge, A.G. (1977): Chordate structure and Function. 2nd ed. Macm.Publ.Co.,Inc. New York. Young, J.Z. (1985): The Life of Vertebrates. 3rd ed. Oxford Univ.Press. New York.
c) Recommended Books	-Hopper, A. (1985): Foundation of animal development. 2nd Edition. Oxford Univ.Press. New York. -Hole, J. (1986): Essentials of human Anatomy and Physiology. 2nd Edition Brown Publishers. USA.
d) Periodicals, web sites,…,etc	-Journal of Experimental Zoology. -Journal of Development. -Differentiation. -Arch. Anat. Microsc. Morphol. Exp.

Course Instructor: Dr. Amal Abbas

Head of Department: Prof. Karoline Kamel Abdel Aziz

Date: -----/-----/2011