Postgraduate Course Book

Department: Biology

College: Education College

University: Salahaddin University

Subject: Adv. Insect taxonomy

Course Book Level: Msc. student ; second semester

Lecturer's name: Assist.Prof.Dr.Wand K. Ali

Academic Year: 2023/2024

Course Book

1. Course name	Adv. Insect taxonomy
2. Lecturer in charge	Assist.Prof.Dr.Wand K. Ali
3. Department/ College	Biology/ Education
4. Contact	e-mail: wand.ali@su.edu.krd
5. Time (in hours) per week	Theory: 2 x 2
6. Office hours	Availability of the lecturer to the student during the week
7. Course code	
8. Teacher's academic profile	I graduate from Salahaddin University in 1993. In 1995 I finished my MSc degree and started as Assistant Lecturer Teaching, Practical Entomology, and Practical Invertebrate Biology. At 2011 I got Assistant prof. degree, from that time, I am in charge of teaching Entomology theory for 3rd class students in Biology department, Supervising Entomology Practical Laboratory, supervising graduate students and teaching MSc ,PhD Student's
9. Keywords	Entomology, diagnosis ,nomenclature , insect taxonomy

10. Course overview:

The course overview cover the following points:

1- Theories of biological classification and their history.
2- classification from Aristotle to the three Domain system. The history of taxonomy terms.
3- Biological nomenclature. Development of codes of nomenclature.
4- Species and subspecies. The polytypic species population systematic and infraspecific categories.
5- Distinguish and Identification of insects.
6- clarify and study the characteristics of the major insect orders Taxonomic characters. Life history ,Quantitative characters. Behavioral and Ecological characters. Writing the Description of species.

11. Course objective:

The purpose of the course is to teach the student current knowledge in systematic biology, from different perspective. Specific goals for this course are the understanding of: 1) species diagnosis and description; 2) rules of nomenclature; 3) Writing the Description of species.4- Understanding of the principles of internal and external anatomy of insects 5- Describe the life cycles of important insect groups.

12. Student's obligation

Exam policy: Student should get exam during the course (semester). There will be no make-up exams for absence students without medical report.

Classroom polices:

1- Attendance: You are strongly encouraged to attend class on a regular basis, as participation is important to your understanding of the material. This is your opportunity to ask questions. **Students are responsible for obtaining any information they miss due to absence.**

2- **Lateness:** Lateness to class is disruptive

3- **Electronic devices:** All cell phones are to be turned off at the beginning of class and put away during the entire class.

4-**Talking:** the class should be refraining from side conversations. These can be disruptive to other students and the professor, and not Disrespectful to both the professor and to other students

13. Forms of teaching

Different forms of teaching will be used to reach the objectives of the course: power point presentations for the head titles and definitions and summary of conclusions systematic of insects and any other illustrations, besides worksheet will be designed to let the chance for practicing on several aspects of the course in the classroom. There will be classroom discussions and the lecture will give enough background to translate, solve, analyse, and evaluate problems sets, and different issues discussed throughout the course.

14. Assessment scheme

To get the best of the course, it is suggested that students attend class as much as possible, read the required lectures, teacher's notes regularly as all of them are foundations for the course.
The students are required to do one closed book exam at the mid of the semester besides other assignments including translations and one research paper. The exam has 50 marks, So that the final grade will be based upon the following criteria:

- Review article preparation : 15
- Seminar presentation : 10
- Quiz 5
- Midterm exam 20
- Final exam 50

Total score 100

15. Student learning outcome:

After completion of this course, student will be able to:

- Define common terms used in insect taxonomy
- Studying the advantages and disadvantages of different orders .
- Identify all insect orders.
- Studying different structure and shapes of each family .
- Classification of most insect especially those common in Kurdistan Iraq.
- Studying the economical insect that causing destructiveness to different plants.
- The student will be able to recognize the useful and destructiveness insect and how detect them .

16. Course Reading List and References:

1-Mayr E. & Ashlock P.T.(1991) Principles of Systematic Zoology. 2nd Ed. McGraw Hill, New York.
2-Gillott,C.(2005)Entomology. Third edition. Springer, netherland.834P.
3-Ickman,C.p.;Roberts,L.S.;Larson,A.;l'Anson,H.andEisenhour,D.(2006) Integrated principles of Zoology(chapter20).thirteenth edition. McGraw-Hill Higher education.
4-Imms,A.D.(1970)A general Textbook of Entomology. Ninth edition, London: Methuen & Co LTD.886P.
5-Elzinga, R.J. (2003) Fundamentals of Entomology 6th ed., McGraw Hill Companies Inc. U.S.A.

- **internet resources:**

http://entomology.unl.edu
http://www.entsoc.org/resources/education/online-courses
http://www.ent.iastate.edu/list
http://cirrusimage.com/wp/
http://entnemdept.ufl.edu/walker/ufbir/chapters/index_order.shtml

17. Topics Program	Lecture's Name
Week 1: The history of taxonomy and some important terms. Splitters and Lumpers	Dr. Wand k. Ali
Week 2: clarify the various classification systems that have been used in biology	
Week 3: The discipline of taxonomy	
Week 4: Trends in Taxonomy today: an overview about the main topics in taxonomy	

Week 5: what taxonomist do, the employment of taxonomy	
Week 6: taxonomic characters , taxonomic characters function and the diagnostic value of taxonomic characters	
Week 7: I dentification and identification steps, individual variations , identification apparatus(keys) Insect Identification Techniques	
Week 8:kinds of insects names **,** Species and Species Concepts ,historical development of the species definition	
Week 9: taxonomic hierarchy, dimension and definition of taxonomic orders	
Week 10: kind of type specimen , fixation rules of type specimens	
Week 11:the international rules of zoological nomenclature, and priority law	
Week 12:insect collecting and killing methods for taxonomic purpose	
Week 13: insects classification and integrated taxonomic information system	
Week 14: ethics in taxonomy ,evaluating student activity and seminar presentation with general revision to all the subjects during the course	
18. Grading procedure Through Examinations: like 1. Compositional: 2. True or false type of exams:In this type of exam a short sentence about a specific subject will be provided, and then students will comment on the trueness or falseness of this particular sentence. 4. Fill in the blanks: In this type of exam there will be a sentences with deleted word, students will add the correct words for giving full meaning to the sentences. 5- Critical thinking question as evaluate ,explain ,demonstrate and analyse	

19. Extra notes: No notes	
20. Peer review This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section. *(A peer is person who has enough knowledge about the subject you are teaching; he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).* ئەم کۆرسبووکە دەبێت لەلایەن هاوەڵێکی ئەکادیمیەوە سەیر بکرێت و ناوەرۆکی بابەتەکانی کۆرسەکە پەسەند بکات و جەند ووشەیەک بنووسێت لەسەر شیاوی ناوەرۆکی کۆرسەکە و واژووی لەسەر بکات. هاوەڵ ئەو کەسەیە کە زانیاری هەبێت لەسەر کۆرسەکە و دەبیت پلەی زانستی لە مامۆستا کەمتر نەبێت. .	

* Must have permission of the Scientific and Higher Education Committee