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**Department of: Forestry**

**College of: Agricultural Engineering college**

**University of: Salahaddin-Hawler**

**Subject: Honey Bee and Forestry Course Book:**

 **4th Year Student**

**Lecturer's name: Assist. Prof. Dr. Abdulbaset**

 **M. Amin Mohammed**

**Academic Year: 2023-2024**

**Course Book**

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| **1. Course name** | **Honey bee and Forestry/First semester/ Autumn Semester**  |
| **2. Lecturer in charge** | **Abdulbaset M. Amin Mohammed\ Assist.Prof.** |
| **3. Department/ College** | **Forestry, College of Agricultural Engineering Science** |
| **4. Contact** | **e-mail:****Abdulbaset.Mohammed@su.edu.krd****Tel: 07700435560** |
| **5. Time (in hours) per week**  | **Theory: 2**  |
| **6. Office hours** | **30 hours** |
| **7. Course code** | **-** |
| **8. Teacher's academic profile**  | B. Sc. In Science college(Biology), Sulaimani University. Sulaimany. 1981. MSc. in Entomology, Honey bee classification-Science College- Salahaddin University. Erbil. Ph.D. in Insect Biology –Ebin-Alhaethem College –University of Baghdad 2000.Title of M.Sc. Thesis: Morphometric Studies on the Honey bees *Apis mellifera* of the Northern Iraq area. 1991. Title of Ph.D. Thesis: Seasonal Occurrence of the Sunn Pest *Eurygaster integriceps* Puton with Remarks On its Natural Enemies in Erbil- Iraq .2000. Lecturing different subjects in Biology, Plant Protection, Plant Production, Agroforestry and Horticulture department for under students, Salahaddin University-Hawler. In 2015 - till now The Head of Horticulture Department of the College of Agriculture – Salahaddin University. Teaching Experience: |
| **9. Keywords** |  |
| **10. Course overview:**Honey beekeeping is the art of managing bees with the intention of getting the maximum return from this work with the minimum of expenditure. Bees produce swarms, queens, wax and honey. The production of swarms and queens should be left to specialists.The production of wax has some value, but this value is diminished by the cost of rendering.The production of honey is the main purpose of beekeeping, one that the beekeeper pursuesbefore everything else, because this product is valuable and because it can be weighed and priced. Honey is an excellent food, a good remedy, the best of all sweeteners. We shall go into this in more detail. And we can sell honey in many forms just as we can consume it in many forms: as it is, in confectionery, in cakes and biscuits, in healthy and pleasant drinks – mead, apple-less cider, grape-less wines. It is also worth noting that beekeeping is a fascinating activity and consequently rests both mind and body. Furthermore, beekeeping is a moral activity, as far as it keeps one away from cafés and low places and puts before the beekeeper an example of work, order and devotion to the common cause. Moreover, beekeeping is a pre-eminently healthy and beneficial activity, because it is most often done in the fresh air, in fine, sunny weather. For sunshine is the enemy of illness just as it is the master of vitality and vigor. Dr Paul Carton wrote: 'What is needed is to educate a generation in disliking alcohol, in despising meat, in distrusting sugar, in the joy and the great benefit of movement'. For the human being is a composite being. The body needs exercise without which it atrophies. The mind needs exercising too, otherwise it deteriorates. Intellectuals deteriorate physically. Manual workers, behind their machines, suffer intellectual deterioration. Working on the land is best suited to the needs of human beings. There, both mind and body play their part. |
| **11. Course objective:** **The main aim of this important subject to maintenance our great forests for our people and visitors and resolving most forests problem in Kurdistan.** |
| **12. Student's obligation**The student has to prove its presence in the lecture and that by taking the percentage of attendance by me and be prepared in every lecture for weekly cuisse and the form of attending a report at the end of the term on relevant lesson and lectures taken the students subject and in the end are the student’s exam monthly and final exam. |
| **13. Forms of teaching**The use of the following methods in the teaching process:1. Data Show
2. Presentation
3. Course book
4. White board.
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| **14. Assessment scheme**

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| **Assignment** | **Point Each** | **Total Points** |
| **cuisse** | **1** | **5** |
| **Exams #1, #2** | **20** | **20** |
| **Lab Base** | **10** | **10** |
| **Lab cuisse** | **1** | **5** |
| **Total** |  | **40** |

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| **15. Student learning outcome:**1. Helping the students in acquiring the required skills.
2. Easy to do very rapid prototyping
3. Quick to learn, and good documentation
4. A good library of image processing functions
5. The student learns how to get accurate results and their use in matters concerning market.
6. Students learn programming and agriculture engineering in a way.
7. Students learn the difference between different forest tree pests.
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| **16. Course Reading List and References‌:**Useful references:1. Joe M. Graham (2003). The hive and the honey bee.
2. Diana Sammatro and Alphonse Avitabile (1998). Beekeepers hand book.

3-Peter Warhurst and PogerGoeble (1995). The Bee books.4-Roger A. Mores and Kim Flottum (1997). Honey Bee pests, Predators and Diseases.  5-The hive and the Honey Bee. Goe M. Graham Dadant &Sons  6- Beekeeper’s handbook |
| **17. The Topics:** | **Lecturer's name** |
| 1st week:Forestry and beekeeping Sub Sector | Abdulbaset M. Amin2hrs11/09/2023 |
| 2nd weekAngiosperms Flowers and Pollinators | Abdulbaset M. Amin2hrs18/09/2023 |
| 3nd week: |  |
| The Economic importance of the honey bee | Abdulbaset M. Amin2hrs25/09/2023 |
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| 4rd week:The Medical importance of the honey bee | Abdulbaset M. Amin2hrs02/10/2023 |
| 5th week: Forestry and Beekeeping sub sector, the role of honey bee in plants pollination and production | Abdulbaset M. Amin2hrs09/10/2023 |
| 6th week:The biology of bee colonies individual, biology of bee queen Bee and its activity in egg laying. | Abdulbaset M. Amin2hrs16/10/2023 |
| 1st monthly Examination7th week: The biology of bee workers, egg laying workers and the drone’s biology. | Abdulbaset M. Amin2hrs23/10/2023 |
| 8th weak:  The worker activities within the bee colonies | Abdulbaset M. Amin2hrs30/10/2023 |
| 9th week:The worker activities in the field. | Abdulbaset M. Amin2hrs06/11/2023 |
| 10h week:The Apiary starting methods and the beekeepers equipment’s. | Abdulbaset M. Amin2hrs13/11/2023 |
| 11th weekThe bee swarming in honey bee colonies.The Bee Robbing, Bee migration and Bee colonies division | Abdulbaset M. Amin2hrs20/11/2023 |
| 2nd monthly examination12th week:  Honey granulation and honey fermentation. | Abdulbaset M. Amin2hrs27/11/2023 |
| 13th week: The honey bee pests and diseases.  | Abdulbaset M. Amin2hrs04/12/2023 |
| 14th week:The honey bee diseases and pests. | Abdulbaset M. Amin2hrs 11/12/2023 |
| **19. Examinations:****The examination:**The examination manner as follow:Q1/Define the following.Q2/What are the justifications of the following. Q3/ Draw and fully labeled.Q4/ Explain the…….Q5/ Mention the functions of.Q6/ Compare between.Q7/Answer with True or False.Q8/Complete the following sentences. |
| **21. Peer review**  |