

Description of the beekeeping course

1. Course name:

Beekeeping

1. Course code:

APIC312

1. Semester/Year: Annual

Spring semester/2023-2024

1. The date this description was prepared

1/2/2024

1. Available attendance forms:

My presence

1. Number of study hours (total)/number of units (total):

75 hours / 3.5 units

1. Name of the course administrator (if more than one name is mentioned)

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1. Course objectives

- The learner should be able to define the concept of beekeeping and the information that must be available to practice the beekeeping profession.
 - Choosing the appropriateness of the factors affecting beekeeping and its products.
 - Differentiate between different planning systems and the appropriate ones
 - Understand the basics of planning and use them to create an ideal apiary
 - Distinguishing between types of bees and their products according to the information gained.
 - Familiarity with the information a beekeeper needs and what is available to him to master his work
 - The beekeeper's awareness of the factors affecting the beekeeping profession
 - Determine the appropriate type of bees and what should be considered when choosing the appropriate breed
- A comprehensive study of the various types of bees and their products and determining the controls and conditions that must be observed when establishing apiaries.

1. Teaching and learning strategies

- Interactive lecture
- Brainstorming
- Dialogue and discussion
- Field Training
- Practical exercises
- Field project
- Self-education

1. Course structure

Week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	1 theoretical	Learn about the concept of beekeeping, its benefits, an introduction and definition of beekeeping, and the historical development of beekeeping	The importance of the science of bee science The origin and /	Interactive lecture, brainstorming, dialogue and discussion, self	Semester exam 1, final exam

		<p>science</p> <p>b1 He possesses the practical and mental : knowledge and concepts that help him in beekeeping</p> <p>d3 Community members participate and work to : educate them about the importance of increasing and its impact on increasing production and apiaries .improving income and living</p> <p>E1 It contributes to enhancing knowledge of honey : types among community members and making them aware of the importance of bees and increasing me and serve production to improve individual inco .society</p>	<p>origin of bees / Division and classification of bees / Types of honey bees widespread in the world / Breeds of honey bees widespread in the world / Standard of bee characteristics breeds / Strain of Iraqi honey bees</p>	<p>learning</p>	
	3 practical	<p>c1 recognizes on Concept profession education : Bees , Its benefits , Individuals Sect</p> <p>b1 has Knowledge And concepts the operation And : mentality that Help him in Bee hive management</p> <p>d3 participates Individuals the society And it works : on Educating them Importantly more the lid Vegetarian And its impact in Refresh profession a way general education Bees In</p> <p>e1 contributes in Strengthen Valuable : Understanding I have Individuals the society And make them aware With importance education Bees To improve Production Agricultural And the environment And service the society</p>	<p>Identifying the the honey members of bee sect, the general structure of the worker's body, the head and its appendages, simple eyes, compound eyes, antennae, mouth parts, jaw glands, .pharyngeal glands</p>	<p>Interactive lecture, brainstorming, dialogue and discussion, field learning -self ,training</p>	<p>Short practical test I</p>
	1 theoretical	<p>a2 Determines the economic importance of bee : products and their benefits</p> <p>B1 He possesses the practical and mental : knowledge and concepts that help him identify the members of the bee colony</p> <p>c5 Successfully balances the investment and use of : bee products and employs them in a way that is compatible with production processes For different types and breeds of bees</p>	<p>The most important honey bee products and their benefits</p>	<p>Interactive lecture, orming, dialogue brainst -and discussion, self learning</p>	<p>Semester exam 1 , final exam</p>
	3 practical	<p>c3 Uses the information the student needs and what : is available to him to master his work</p>	<p>The thorax and its appendages, the wings and their appendages, the legs and their modifications antennae cleaner,) pollen basket), other modifications , respiratory stomata, .thoracic glands</p>	<p>Interactive lecture, brainstorming, dialogue and discussion, field training, practical -exercises, and self learning</p>	<p>Direct drawing</p>
	1 theoretical	<p>a2 Determines the standard characteristics of the : bee colony, the types of bees, and the specifications that must be available in a good bee strain and their . impact on production</p>	<p>Identify the most important members of the honey bee sect, eir specifications, th and the life cycle of each</p>	<p>Interactive lecture, brainstorming, dialogue -and discussion, self learning</p>	<p>Semester exam 1 , final exam</p>
	3 practical	<p>c3 Uses the information the student needs and what : is available to him to master his work</p>	<p>Nasanov's gland , stinging apparatus and its glands, scent glands</p>	<p>Interactive lecture, brainstorming, dialogue and discussion, field learning -training, self</p>	<p>Field evaluation</p>
	1 theoretical	<p>a2 Determines the information the beekeeper needs : is available to him to master his work and what</p> <p>c4 Draws up plans and programs for development : in the field of beekeeping and hive farming in accordance with the requirements of the environment and society</p>	<p>Identify the most important necessary supplies and their types to be used in the apiary</p>	<p>Interactive lecture, brainstorming, dialogue -and discussion, self learning</p>	<p>Semester exam 1 , final exam report ,</p>

		d3 Community members participate and work to : them about the importance of increasing educate beehives and its impact on increasing an individual's .income and improving their livelihood e1 It contributes to enhancing knowledge among : community members and making them aware of the ng the environment, and importance of bees, improvi serving the community			
3 practic al		c3 Uses the information the designer needs and : what is available to him to perfect his work	Internal anatomy and specialized organs of worker honey bees, mouth parts	Interactive lecture, brainstorming, dialogue and discussion, field practical ,training -exercises, and self learning	Practical short test 2 direct , drawing
1 theoret ical		c4 Draws up plans and programs for developing : bee hives that help increase the process of pollinating flowers and other crops d3 participate and work to Community members : educate them about the importance of increasing vegetation cover and its impact on controlling pollution e 1 It contributes to enhancing and developing the : culture of beekeepers among community members t pollination processesand the role of bees in plan	Honey bees and flowers / Honey bees and vegetable crops / Pollination / Fertilization / The importance of honey bees in pollinating crops	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Semester exam 1 , inal exam f report ,
3 practic al		c9 The student should be able to practically : implement the use of beekeeping tools in the examination process c12 The student should be able to use modern : techniques in apiary management and honey production	Beekeeper tools and supplies, colony inspection tools, frame cleaning tools, foundation wax production tools, queen production and rearing tools, honey sorting tools, nutrients and their .types	Interactive lecture, brainstorming, dialogue field ,and discussion training, practical -exercises, and self learning	Field evaluation
1 theoret ical		a2 Determines the appropriate times for feeding : bees c4 Plans the necessary needs for feeding bees The : most important alternatives used in nutrition	nutrition / Types of feeding with carbohydrates and their alternatives / precautions to be taken during feeding	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Short test, final test
3 practic al		c3 needs and Uses the information the designer : what is available to him to perfect his work c58 The student should be able to master the : process of transferring the sect from the municipal cell to the modern cell	Types of beehives municipal, modern,) (and illustrative	,Interactive lecture brainstorming, dialogue and discussion, field training, practical -exercises, and self learning	Direct drawing and homework
1 theoret ical		a3 Utilizes available capabilities to stop the theft : process between bee colonies c3 used to control theft More than one method is : operations between sects	The concept of theft / theft behavior / reasons for theft / signs of theft / how to steal	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Semester exam 2 , final exam
3 practic al		First monthly exam	First monthly exam	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, field project, learning-self	Field project
1 theoret		a3 Determines the signs of swarming in bee : colonies	Signs of eviction / Reasons for eviction /	Interactive lecture, rainstorming, dialogue b	Semester exam 2 ,

ical	c3 More than one method is used to control : expulsions between sects	Types of eviction / Disadvantages of eviction / Ways to prevent eviction / Industrial eviction and methods of dividing bees	-and discussion, self learning	final exam
3 practical	c3 Uses the information the designer needs and : what is available to him to perfect his work C58 The student should be able to master the : wooden frames process of wiring	Tire cleaning + a tour of the apiary	Interactive lecture, brainstorming, dialogue and discussion, field training, practical -exercises, and self learning	Direct drawing and homework
1 theoretical	a4 colonies Identifies new ways to strengthen bee : And signs of pesticide poisoning c3 Uses what the beekeeper needs to strengthen : colonies	Reasons for the weakness of sects / ways to strengthen weak sects / pesticide poisoning	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Semester exam 2 , final exam
3 practical	c3 Uses the information the designer needs and : what is available to him to perfect his work	History of making base wax, installing base wax on tires	Interactive lecture, brainstorming, dialogue discussion, field and training, practical -exercises, and self learning	Direct drawing and homework
1 theoretical	a2 Identifies innovative and new methods in raising : queen bees	Methods of raising queens	Interactive lecture, brainstorming, dialogue -discussion, self and learning	Semester test 2
3 practical	c3 Uses the information the designer needs and : what is available to him to perfect his work c58 That He is requester Able on that Perfects : practical transformation Sect from cell Municipal to cell Modern	Converting the municipal (local) cell into a modern wooden cell (practical application), writing a report on the conversion process and following up on the community's progress in the .following weeks	Interactive lecture, e brainstorming, dialogu and discussion, field training, practical -exercises, and self learning	Direct drawing and homework
1 theoretical	a2 Identifies the most important and useful honey : bee products c3 Uses different bee products In increasing per : capita income	royal jelly, bee ,Wax venom, propolis , pollen	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Final test
3 practical	c3 Uses the information the student needs and what : is available to him to master his work	,Honey bee products honey and its specifications, honey crystallization, honey adulteration	Interactive lecture, brainstorming, dialogue and discussion, field training, practical -exercises, and self learning	Direct drawing and homework
1 theoretical	a2 important diseases that affect Identify the most : bees And the most dangerous for sects c3 Uses treatments that are safe for bees and the : environment to treat infected colonies	Identify the most important types of fungal, bacterial and viral diseases that s / affect honey bee Identify the most important insect and animal pests that affect honey bees	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Final test
3 practical	c3 Uses the information the student needs and what : master his work is available to him to	Wax, royal jelly, bee venom, propolis , pollen	Interactive lecture, brainstorming, dialogue and discussion, field	Direct drawing and

				training, practical -exercises, and self learning	homew
13	1 theoretical	a2 characteristics of crystallized honey c3 It uses innovative and modern methods to detect : honey adulteration	Honey bee products, honey and its specifications, honey crystallization, honey adulteration	Interactive lecture, brainstorming, dialogue -ssion, selfand discu learning	Final test
	3 practical	c3 Uses the information the designer needs and : what is available to him to perfect his work b38 The student should be able to understand the : extent of the problems and risks resulting from pathogens and pests that affect infection with honeybees, specifying the mechanisms for managing these problems, and appreciating the elements of .potential risks	Identify the most important types of fungal, bacterial and viral diseases that affect honey bees / the most Identify important insect and animal pests that affect honey bees	Interactive lecture, brainstorming, dialogue and discussion, field training, practical -exercises, and self learning	Direct drawing and homework
14	1 theoretical	c3 sources Uses different nectar : c5 Balances bee colonies after being exposed to : pesticide poisoning a2 Identify signs of chemical pesticide poisoning :	Sources of nectar and pollen in Iraq, bee poisoning with chemical pesticides, plants toxic to honeybees, symptoms revention and signs, p of poisoning	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Short test, final test
	3 practical	c3 Uses the information the designer needs and : what is available to him to perfect his work	Sources of nectar and pollen in Iraq, bee poisoning with chemical pesticides, plants toxic to honeybees, symptoms and signs, prevention of poisoning	Interactive lecture, brainstorming, dialogue and discussion, field training, practical -exercises, and self learning	Short practical test 3
15	1 theoretical	c3 Able to prepare scientific research and studies in : his field of specialization	Second month exam	Interactive lecture, brainstorming, dialogue -and discussion, self learning	Short test, final test
	3 practical	c3 Able to prepare scientific research and studies in : his field of specialization	Second month exam	Interactive lecture, brainstorming, dialogue and discussion, field training, practical exercises, field project, learning-self	Field project

1. evaluation Course				
Γ	Calendar methods	(Calendar date (week	Class	Relative % weight
1	Report 1	fourth week	2.5	2.5
2	Report 2	The fifth week	2.5	2.5
3	(Short test (1Quiz	sixth week	2	2
4	(Short test (2Quiz	The fourteenth week	2	2
5	(Short test (3Quiz	fifteenth week The	1	1
5	(Semester test (1	the sixth week	7.5	7.5
7	(Semester test (2	The eleventh week is difficult	7.5	7.5
3	Final theoretical test	Final semester exams	40	40
9	Practical field project	The fifteenth week	5	5
10	Field evaluation	and fifth week The third	2	2
11	(Short practical test (1Quiz	The first week	1	1
12	(Short practical test (2Quiz	fourth week	0.5	0.5
13	(Short practical test (3Quiz	The fourteenth week	1	1
14	Live drawings and homework	Weeks 6, 8, 9, 10, 11, 12 and 13	5.5	5.5

15	Final practical test	Final semester exams	20	20
	the total	100	%100	%100

2. Learning and teaching resources

Required textbooks (methodology, if any)	Naji- The book on beekeeping and silkworms / written by Dr. Louay Karim
Main references (sources)	- The book on beekeeping and silkworms / written by Dr. Louay Naji-Karim Al
Recommended supporting books and references (scientific journals,reports)	The bees of the world /Charles D. Michener
Electronic references, Internet sites	https://www.google.com/search?q=%D9%83%D8%AA%D8%A+%D8%AA%D8%B1%D8%A8%D9%8A%D8%A9+%D8%A7%D9%84%D9%86%D8%AD%D9%84&oq=%D9%83%D8%A%D8%A8+%D8%AA%D8%B1%D8%A8%D9%8A%D8%A9+%D8%A7%D9%84%D9%86%D8%AD%D9%84&aqs=chrome..69j0l5j0i15i22i30l2.6551j0j15&sourceid=chrome&ie=UTF8



Theoretical subject teacher
Assistant Professor Dr. Mohammed Yousuf Sayed Ghani



Practical subject teacher
Assistant Lecturer. Ahmed Thamer



Chairman of the Scientific Committee
Professor Dr. Weam Yahya Rasheed



Chief of Field Crops Department
Professor Dr. Maysar Muhammad Aziz