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

the week	hours	Required learning outcomes	Name of the unit or topic	Learning method	Evaluation method
1	theoretical 1	a1 Learn about the concept of : beekeeping, its benefits, an introduction beekeeping , and the and definition of historical development of bee science b1 He possesses the practical and : mental knowledge and concepts that help him in beekeeping d3 Community members participate and : work to educate them about the and its importance of increasing apiaries impact on increasing production and .improving income and living E1 It contributes to enhancing : knowledge of honey types among community members and making them aware of the importance of bees and increasing production to improve .me and serve societyindividual inco	The importance of the science of bee science / The origin and 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	Interactive lecture, brainstormin g, dialogue and discussion, learning-self	Semester exam 1 , final exam
	practical 3	c1 recognizes on Concept profession : education Bees , Its benefits , Individuals Sect b1 has Knowledge And concepts the : operation And mentality that Help him in Bee hive management 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 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	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	Interactive lecture, brainstormin g, dialogue and discussion, field ‹training -self learning	Short practical test 1
2	theoretical 1	a2 Determines the economic : importance of bee products and their benefits B1 He possesses the practical and : mental knowledge and concepts that help him identify the members of the bee colony 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	The most important honey bee products and their benefits	Interactive lecture, orminbrainst g, dialogue and discussion, learning-self	Semester exam 1 , final exam

	practical 3	c3 Uses the information the student : needs and what is available to him to master his work	The thorax and its appendages, the wings and their appendages, and their the legs modifications antennae cleaner,) pollen basket), other modifications , respiratory stomata, .thoracic glands	Interactive lecture, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing
3	theoretical 1	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	Identify the most important members of the honey bee sect, eir specifications, and th the life cycle of each	Interactive lecture, brainstormin g, dialogue and discussion, learning-self	Semester exam 1 , final exam
	practical 3	c3 Uses the information the student : needs and what is available to him to master his work	Nasanov's gland , stinging apparatus and its glands, scent glands	Interactive lecture, brainstormin g, dialogue and discussion, field training, -self learning	Field evaluation
4	theoretical 1	a2 Determines the information the : is available to beekeeper needs and what him to master his work 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 d3 Community members participate and : them about the work to educate importance of increasing 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 importance of bees, improvi environment, and serving the community	Identify the most important necessary supplies and their types to be used in the apiary	Interactive lecture, brainstormin g, dialogue and discussion, learning-self	Semester exam 1 , final exam report ،
	practical 3	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, brainstormin g, dialogue and discussion, field ،training practical exercises, -and self learning	Practical short test 2 direct ، drawing
5	theoretical 1	c4 Draws up plans and programs for : developing bee hives that help increase	Honey bees and flowers / Honey bees	Interactive lecture,	Semester exam 1 ,

		the process of pollinating flowers and other crops d3 participate and Community members : work to 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 and the role t pollination processesof bees in plan	and vegetable crops / Pollination / Fertilization / The importance of honey bees in pollinating crops	brainstormin g, dialogue and discussion, learning-self	inal exam f report ،
	practical 3	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, brainstormin g, dialogue and ،discussion field training, practical exercises, -and self learning	Field evaluation
6	theoretical 1	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, brainstormin g, dialogue and discussion, learning-self	Short test, final test
	practical 3	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 process of transferring the sect from the municipal cell to the modern cell	Types of beehives municipal, modern,) .(and illustrative	Interactive ،lecture brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
7	theoretical 1	a3 Utilizes available capabilities to stop : the theft process between bee colonies c3 used to More than one method is : control theft operations between sects	The concept of theft / theft behavior / reasons for theft / signs of theft how to steal /	Interactive lecture, brainstormin g, dialogue and discussion, learning-self	Semester exam 2 , final exam
	practical 3	First monthly exam	First monthly exam	Interactive lecture, brainstormin g, dialogue and discussion, field training, practical exercises, field project, learning-self	Field project

8	theoretical 1	a3 Determines the signs of swarming in : bee colonies c3 More than one method is used to : control expulsions between sects	Signs of eviction / Reasons for eviction / Types of eviction / Disadvantages of eviction / Ways to prevent eviction / Industrial eviction and methods of dividing bees	Interactive lecture, rainstorminb g, dialogue and discussion, learning-self	Semester exam 2 , final exam
	practical 3	c3 Uses the information the designer : needs and what is available to him to perfect his work C58 The student should be able to : wooden master the process of wiring frames	Tire cleaning + a tour of the apiary	Interactive lecture, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
9	theoretical 1	a4 Identifies new ways to strengthen : colonies And signs of pesticide bee 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, brainstormin g, dialogue and discussion, arningle-self	Semester exam 2 , final exam
	practical 3	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, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
10	theoretical 1	a2 Identifies innovative and new : methods in raising queen bees	Methods of raising queens	Interactive lecture, brainstormin g, dialogue and discussion, learning-self	Semester test 2
	practical 3	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 cell Modern from cell Municipal to	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, brainstormin e g, dialogu and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
11	theoretical 1	a2 Identifies the most important and : useful honey bee products	royal jelly, bee ،Wax venom, propolis ,	Interactive lecture,	Final test

		c3 Uses different bee products In : increasing per capita income	pollen	brainstormin g, dialogue and discussion, learning-self	
	practical 3	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, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
12	theoretical 1	a2 important diseases Identify the most : that affect 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, brainstormin g, dialogue and discussion, learning-self	Final test
	practical 3	c3 Uses the information the student : needs and what is available to him to master his work	Wax, royal jelly, bee venom, propolis , pollen	Interactive lecture, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
13	theoretical 1	a2 characteristics of Determines the : 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, brainstormin g, dialogue and ssion, discu learning-self	Final test
	practical 3	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 infection with pathogens and pests that affect 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, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Direct drawing and homework
14	theoretical 1	c3 sources Uses different nectar : c5 Balances bee colonies after being : exposed to pesticide poisoning a2 Identify signs of chemical pesticide :	Sources of nectar and pollen in Iraq, bee poisoning with chemical pesticides,	Interactive lecture, brainstormin g, dialogue	Short test, final test

		poisoning	plants toxic to honeybees, symptoms revention and signs, p of poisoning	and discussion, learning-self	
	practical 3	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, brainstormin g, dialogue and discussion, field training, practical exercises, -and self learning	Short practical test 3
15	theoretical 1	c3 Able to prepare scientific research : and studies in his field of specialization	Second month exam	Interactive lecture, brainstormin g, dialogue and discussion, learning-self	Short test, final test
	practical 3	c3 Able to prepare scientific research : and studies in his field of specialization	Second month exam	Interactive lecture, brainstormin g, dialogue and discussion, field training, practical exercises, field project, learning-self	Field project

1. evaluation Course

T	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
6	(Semester test (1	the sixth week	7.5	7.5
7	(Semester test (2	The eleventh week is difficult	7.5	7.5
8	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	The book on beekeeping and silkworms / written by Dr. Naji-Louay Karim Al

(Main references (sources	- The book on beekeeping and silkworms / Naji-written by Dr. Louay 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%A8+%D8%AA%D8%B1%D8%A8%D8%A9+%D8%A7%D9%84%D9%86%D8%AD%D9%84&oq=%D983%D8%AA%D8%A8+%D8%AA%D8%B1%D8A8%D9%8A%D8%A9+%D8%A7%D9%84%D9%86%D8%AD%D9%84&a=chrome..69i57j0i22i30l2j0i15i22i30l2.6551j0j15&ourceid=chrome&ie=UTF-8

Theoretical subject teacher
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Practical subject teacher
Assistant Lecturer. Ahmed Thamer

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