

Republic of Iraq

The Ministry of Higher  
Education

& Scientific Research

بسم الله الرحمن الرحيم



University: Diyala

College: Agriculture

Department: Animal Resources

Stage: Third

Name: Farqad Shawqi Ibrahim

Academic: Lecture PhD

Qualification: PhD.

Place of work: Coll. Of Agriculture

## Flow up of implementation celli pass play

Course Instructor	Farqad Shawqi Ibrahim				
E-mail	<a href="mailto:farqadIbrahim@uodiyala.edu.iq">farqadIbrahim@uodiyala.edu.iq</a>				
Title	Hatching and Management of Hatcheries				
Course Coordinator	Second Course \ 2024-2025				
Course Objective	Education the students about the modern scientific methods in artificial hatching and scientific manners in hatcheries management .				
Course Description	Definition and Types of Hatching, Stages of Embryonic Development, Hatching Machines, Hatching Requirements, Factors Affecting the Hatching.				
Textbook	Al- zjaji, R. J. and I. K. Ibrahim. 1981. Hatching and Management of Hatcheries				
References	. North, M.O. 1994. Commercial chicken production manual. AVI Publishing Company. New York. Muleer, H.D. 2008. The avian embryo and chick as laboratory animals. Colorado State University, College of Agriculture, Department of poultry science. Hatchery Management Guide .2008. Cobb-vantress.com.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
	20%	15%	5%		60%
General Notes					

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week	Date	Topics Covered	Practical Part
1	1 <sup>st</sup> Week	Definition of Incubation and Its Types .History of artificial incubation and its development.	Identification of Incubator Parts
2	2 <sup>nd</sup> Week	Male reproductive system, its anatomy, sexual maturity in roosters, fertility, and the factors affecting fertility. Female reproductive system, its anatomy, egg composition, and the effect of lighting on egg production.	Visit to an incubator facility.
3	3 <sup>rd</sup> Week	Stages of embryonic development in eggs and their effect on the health of the hatched chicks.	Specifications of eggs suitable for incubation.
4	4 <sup>th</sup> Week	Handling of eggs before incubation (collection, transportation, selection, storage, and warming of eggs).	Methods of disinfecting and fumigating hatching eggs.
5	5 <sup>th</sup> Week	Examination	(Placing hatching eggs in the incubator and cracking them to observe embryonic development).
6	6 <sup>th</sup> Week	Fertility of the breeder flock and the factors affecting its fertility.	Examination
7	7 <sup>th</sup> Week	Sources of hatching eggs and their impact on hatchability rates.	Components of the incubation process, including temperature, ventilation, turning, etc. (Egg treatment in the incubator).
8	8 <sup>th</sup> Week	Biological monitoring during the incubation process.	Method of sorting chicks and determining their gender.
9	8 <sup>th</sup> Week	Incubation methods and types of incubators (building design and incubator management).	Operations performed on chicks in the incubator from hatching to marketing.
10	10 <sup>th</sup> Week	Health management of hatcheries and biosecurity.	Design and components of modern incubators.
11	11 <sup>th</sup> Week	Examination	Examination
12	12 <sup>th</sup> Week	Sources of hatching eggs and care of breeder flocks.	Viewing a film on the processes in the hatchery.
13	13 <sup>th</sup> Week	Hatchability and the factors influencing	Economic feasibility of hatcheries (costs, revenues, and profit calculations).
14	14 <sup>th</sup> Week	Nutrition, genetics, and care of breeder flocks and their relationship to incubation.	Determining and evaluating the quality of hatched chicks and marketing them.
15	15 <sup>th</sup> Week	Modern technologies used in incubation.	Discussion of student reports.
16	16 <sup>th</sup> Week	Examination	Examination

  
**Instructor Signature:**  
**Dr. Farqad S. Ibrahim**  
**15/1/2025**

  
**Dean Signature:**  
**Prof. Dr. Raed I. Khalil**  
**15/1/2025**