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**Department of**  **Plant Protection**

**College of Agriculture**

**University of Salahaddin**

**Subject: Practical Genetics.**

**Course Book – (Year2)**

**Lecturer's name, Dlpak birkhader MSc.**

**Academic Year: 20222/2023**

**Course Book**

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| **1. Course name** | **Genetics**  |
| **2. Lecturer in charge** | **Dlpak birkhader** |
| **3. Department/ College** | **Plant protection, Agriculture** |
| **4. Contact** | **e-mail: dlpak.yaba@su.edu.krd****Tel: (optional):07504622779** |
| **5. Time (in hours) per week**  | **6 hours**  |
| **6. Office hours** | **Monday (2 hours) and Wednesday (3 hours)** |
| **7. Course code** |  |
| **8. Teacher's academic profile**  |  |
| **9. Keywords** |  |
| **10. Course overview: In general the aim of this lesson is learning student about genetics and its application in time now ,learning how prepare animal cell and plant cell and studding all structures in plant cell and animal cell ,and learning the division(mitosis and meiosis) , gametogenesis ,polyploidy ,pcr ,genetic engineering**  |
| **11. Course objective: The target of this semester were:****1) What is the genetic material ,cell, cell cycle?****2) What is the cell division mitoses?****3) meiosis division.****4) What is polyploidy?****5) What is genetic engineering?**  |
| **12. Student's obligation In this part the role of students is as follow student attendance in lecture and examination, repairing reports about some important course subjects, preparing slides in lab ,doing daily quiz ,giving samples ,wearing lab coats in laboratory .** |
| **13. Forms of teaching: Teaching methods are ,using data show ways ,power point ,white board ,giving hand note ,video report.** |
| **14. Assessment scheme** **25 marks for theoretical part breakdown of overall assessment and examination, the practical part has 15 marks the marks is divided as follows:****10 mark on exam and 5 mark on activity of student (students attendance,queizes,wearing lab coat ,bringing samples, availability and absent of student ,class conversation).****Final examination (20 practical parts 40 for theoretical part.****‌** |
| **15. Student learning outcome:** **Outcomes of this course can be briefed as follow:****Due to our give topics to students they will learn how to genetic material DNA and to know the mutation and causes of mutation and how we preserve as from these causes and in plant breeding they learn to how make plant crops more resistant to disease ,drought and to insects and by genetic engineering we transgenic the plant crop and animals by polyploidy and genetic engineering.** **Course purpose**1. **Expected learning outcomes**
2. **Methods for assessing expected learning**
3. **Criteria for grade determinant.**
4. **Course outline .The second section of the hand book provides a work area to aid in the development of these elements.**
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| **16. Course Reading List and References‌:****1) Principle of genetics.****2) Concept of genetic.****3) Genetic (gens and gen) .****4) American genetic journal.(1980).****5) Genetics Libratory investigations ( 1985) .****6) Internet.** |
| **17. The Topics:** | **Lecturer's name** |
| **1) Introduction of genetic science and cell science and preparation of cell plant and animal cell.****Targets of this lecture:****Illustration the introduction of genetic Science and cell science and illustration of chromosomes.****2) Cell division, mitosis, preparation slides of steps of mitosis by using root tips of onion. The target of this lecture illustration steps of mitosis and showing the graph s of each step.****3) Cell division, meosis, preparation slides of steps of meiosis by using Anther. The target of this lecture illustration steps of meiosis and showing the graphs of each step.****4) Gametogenesis.Target of this lectural illustrat methods of producing male gametes and female gametes.****5) DNA, RNA, extraction of DNA.****6) polyploidy****7) *Drosophila melanogaster* . Target of this lectural showing the advantage of this insect in genetic and harmful of this insect in agricultural.****8) First and second low of Mendel.** | **Dlpak Birkhader** |
| **18. Practical Topics (If there is any)** |  |
| **Lecture time :Wednesday 8.30-11.30 G A 3 hours** **11.30-2.30 G B 3hour s** | **Dlpak birkhader** |
| **19. Examinations:****Questions samples:**1. ***Enumerate the following.***
2. **Draw the following**
3. **Write the parts that pointed.**
4. **Write the function of these structure**
5. **Write deferens between the following.**
6. **Filling the blanks.**
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| **20. Extra notes:****My wish in completely this lecture we must visit the center of veterinary to show student the method of DNA extraction an PCR and Gel electrophoreses.** |
| **21. Peer review پێداچوونه‌وه‌ی هاوه‌ڵ**  |