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**Department of Biology**

**College of Science**

**Salahaddin University**

**Subject: Genetics**

**Course Book – 4**

1. **Lecturer's name: Theory Muhamad Ali Saleem**
2. **Lecturer's name: Practical Lecturer. Govand Musa Qader**

**Academic Year: 2022/2023**

**Course Book**

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| **1.Course name** | **Genetics (Theory & Pratcical)** |
| **2. Lecturer in charge** | **Muhamad Ali Saleem****Govand Musa Qader** |
| **3. Department/ College** | **Biology department/ college of science** |
| **4. Contact** | **e-mail:**  **@su.edu.krd****govand.qader@su.edu.krd** |
| **5. Time (in hours) per week**  | **Theory: 2** **Practical: 6**  |
| **6. Office hours** |  |
| **7. Course code** | **SBio 406** |
| **8. Teacher's academic profile**  | •**I graduate from Salahaddin University/ College of Science/ Biology deparment in 2007.****• In 2014 I completed my M.Sc. degree and after a year (in 2015) started as Assistant Lecturer Teaching Practical molecular technique, and Practical  Genetics and Practical entomology  in the same college.**In 2021 i promoted to lecturer.**The teaching experience in practical including:****Undergraduate:**1. Practical Genetics
2. Practical biotechnology
3. Practical molecular technique
4. Practical Entomology
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| **9. Keywords** | Genetics, Molecular biology. |
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| **11. Course objective:**Different forms of teaching will be used to reach the objectives of the course: power point presentations for the head titles and definitions and any other illustrations, besides worksheet will be designed to let the chance for practicing on several aspects of the course in the classroom. There will be classroom discussions and the lecture will give enough background to translate, solve, analyze, and evaluate problems sets, and different issues discussed throughout the course.To get the best of the course, it is suggested that you attend classes, read the required lectures, teacher’s notes regularly as all of them are foundations for the course. Try as much as possible to participate in classroom discussions, preparing the assignments given in the course |
| **12. Student's obligation*** Students should attend all lectures and not miss any lecture time.
* Additionally, for each lecture, the student should prepare and follow up with sufficient studying time to cover the material presented in the class during that lecture.
* It is highly advised not to accumulate material until before the examination time. Cramming will definitely weaken the student's ability to understand and retain valuable information.
* Students prefer to attend all the seminars on time which held in our department especially seminar about hematology.

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| **13. Forms of teaching**Teaching with technology can deepen student learning by supporting instructional objectives.* Data Show Projector
* Blackboard
* Video
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| **14. Assessment scheme**Breakdown of overall assessment and examination**Grading System:** Theory: %Practical : 30% weekly quizzes:5%Total =35 % |
| **15. Student learning outcome:** |
| **16. Course Reading List and References‌:**1. Kaplan, B.J. (1978) *Preparation of the normal karyotype (workbook). hicago: American Society of Clinical Pathologists.*
2. Macgregor, H.C. & Narley, J.M. (1983). Working with animal chromosome. NewYork: John Wiley & Sons
3. Hartl, D.L. and Jones, E.W. (2000). Genetics. Analysis of Genes and Genomes. Fifth Edition. Jones and Bartlett Publishers, Boston.
4. Mertens, T.R. & Hammersmith, R.L. (2001). Genetics: Laboratory Investigations. Twelfth Edition. Prentice Hall, Englewood Cliffs, NJ.
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| **17. Theory Topics: Lecturer's name** |  |
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| **18. Practical Topics Lecturer's name: Govand Musa**  |  |
| **The Topics:**  | **Date**  |
| ***Week 1:*** Introduction, course outline, concept for Genetic terms***Week 2:***The cell cycle and mitosis***Week 3:*** The Study of Meiosis Division in eukaryotes***Week 4:*** Using of ***Drosophila melanogaster*** in genetic research***Week 5:***  Polytene chromosome preparation ***Week 6:***Mutation induction in ***Drosophila melanogaster******Week 7:*** Using Chromatography to Identify the Eye Mutation of ***Drosophila melanogaster******Week 8***X-inactivation, Barr body & Lyon hypothesis***Week 9:***Fingerprints & Palmar Dermatoglyphics***Week 10:*** Simple Human Non - Metric Traits***Week 11:*** Metaphase chromosome preparation ***Week 13*:** Examination |  |
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| **20. Extra notes:** |
| **21. Peer review پێداچوونه‌وه‌ی**  |