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**Department of …Soil and water...**

**College of ……….…....Agriculture……….…….**

**University of ….…..…Salahaddin….………….**

**Subject: ..…Practical physics…..**

**Course Book – (Year 1)**

**Lecturer's name: May Zeki Saddic**

**Academic Year: 2022/2023**

**Course Book**

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| **1. Course name** | **Practicl physics** | |
| **2. Lecturer in charge** | **May zeki** | |
| **3. Department/ College** | **Soil and water , College of Agriculture** | |
| **4. Contact** | **e-mail: may\_zeki70@yahoo.com**  **Tel: 07504213433** | |
| **5. Time (in hours) per week** | **Practical: 3** | |
| **6. Office hours** |  | |
| **7. Course code** |  | |
| **8. Teacher's academic profile** | **BSc in medical physics (Soil and Water Science department/ College of Agriculture) Science 1997 Working as Demonstrator at soil and water science department for 11 years. MSc medical physics) at 2010.** | |
| **9. Keywords** |  | |
| **10. Course overview:**  **Practical physics is the study of fundamental constituents of the matter and the forces of the nature, is a branch of** [**physics**](http://en.wikipedia.org/wiki/Physics) **that studies the** [**elementary**](http://en.wikipedia.org/wiki/Elementary_particle)[**subatomic**](http://en.wikipedia.org/wiki/Subatomic) **constituents of** [**matter**](http://en.wikipedia.org/wiki/Matter) **and** [**radiation**](http://en.wikipedia.org/wiki/Radiation)**, and their interactions. The field is also called high energy physics, because many elementary particles do not occur under ambient conditions on Earth. They can only be created artificially during high energy** [**collisions**](http://en.wikipedia.org/wiki/Collision) **with other particles in** [**particle accelerators**](http://en.wikipedia.org/wiki/Particle_accelerator)**.**  **Particle physics has evolved out of its parent field of** [**nuclear physics**](http://en.wikipedia.org/wiki/Nuclear_physics) **and is typically still taught in close association with it. Scientific research in this area has produced a long list of particles.**  **All particles and their interactions observed to date can almost be described entirely by a quantum field theory called the** [**Standard Model**](http://en.wikipedia.org/wiki/Standard_Model)**. The Standard Model has been found to agree with almost all the experimental tests conducted to date. However, most particle physicists believe that it is an incomplete description of nature, and that a more fundamental theory awaits discovery. In recent years, measurements of** [**neutrino**](http://en.wikipedia.org/wiki/Neutrino)[**mass**](http://en.wikipedia.org/wiki/Mass) **have provided the first experimental deviations from the Standard Model.**  **Particle physics has impacted the philosophy of science greatly. Some particle physicists adhere to** [**reductionism**](http://en.wikipedia.org/wiki/Reductionism)**, a point of view that has been criticized and defended by philosophers and scientists.ryone who wants to** | | |
| **11. Course objective:**  **The practical physics course aims to teach the students the different of physical variables which they are useful in their field, by using specific equations.**  **The practical physics aims also to learn the students curve fitting, by teach them how to write up their one's results.**  **The practical physics aims to learn he students, how to discuss their results theoretically and procedurally.**  **To learn them how to work effectively in group** | | |
| **12. Student's obligation.**  **In this course the student at every lecture should ready to quick test (quiz) of previous lectures. Whereas they asked about what we talked and studied in previous lecture.** | | |
| **13. Forms of teaching**  **Data Show**  **Presentation**  **Write in white board** | | |
| **14. Assessment scheme**  **First examination 10**  **Second examination 10**  **Sum of daily quick tests (quiz) with reports 5**  **Final assessment 10+10/2=10+5=15 final mark** | | |
| **15. Student learning outcome:**  **Students will be able to create and solve mathematical models of physical phenomena**  **using analytic and numerical methods.**  **Students will be able to design, execute, and interpret experiments to test hypotheses and**  **mathematical models.**  **Students will be able to convey scientific information to a broad spectrum of the**  **population, from individuals with limited background in science to experts in the field.**  **Students will also be able to acquire scientific in**  **formation from professional talks,**  **academic literature, and from the mainstream media, and will be able to evaluate the**  **quality of these sources.**  **Students will be able to understand,**  **synthesize, an**  **d apply the concepts of physics in the**  **following fundamental areas:**  **Mechanics**  **Thermodynamics**  **Electromagnetic Fields**  **Optics**  **Electric and Electronic Circuits**  **Quantum Physics**  **Relativity**  **Experimental Error Analysis**  **Students will possess skills and knowledge that prepare them for employment or further** | | |
| **16. Course Reading List and References‌:**  **1-Experimental Physics Chemistry “ Farrrilgton D., Robert A., J.W.W, Seventh edition, 1962”**  **2-Practical Physics in SI by “E. Armitage, Published by John Murray” 1972”**  **3-Practical Physics “G.L.S Quires”, forth edition, 2001`**  **4-Physics for Biology and pre-Medical Students “ Desmond M. Burns, Simon G. G. Macdonola, 1970”**  **5-Modern College Physics “ James A. Richards Jr., Francis Wenston, 1964” .**  **The internet researches**  [**www.practicalphysics.org**](http://www.practicalphysics.org) | | |
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