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| Date: |  | Version:1/9/2023 | Start: 1/9/2023 |
| **Module Name - Code** | Principles  of Electrical Machines  - 2114 | | |
| **Module Language:** | English | | |
| **Responsible:** | Assistant Prof. Aree Akram Muhammed | | |
| **Lecture (s):** | Theory : Aree Akram  Practical: Aree Akram & Nuraddin TaHA | | |
| **College:** | College of Engineering – Salahaddin University | | |
| **Duration:** | 15 week – 1 semester | | |
| **Course outcomes:** | At the end of the semester, students would be able to understand the principles of operation of electrical machines. The student will get familiar with transformers which have a great part in the practical environment. | | |
| **Course Content:** | The course consists of two chapters, the first chapter, its focus this course is to understand the magnetic field which includes all electrical machines fundamentals and the production of rotating magnetic fields. and the rules that govern it in addition to the role of the magnetic field in the process of conversation power,  the reluctance of magnetic materials, and air. while chapter two is about the working principles, construction, characteristics, and operation of single-phase and three-phase transformers. | | |
| **Literature:** | * Electrical Machines: Theory And Practice by [BANDYOPADHYAY, M. N.](https://www.kopykitab.com/index.php?route=product/search&q=BANDYOPADHYAY%2C+M.+N.) 2020 * DC Machines and Transformers By [K.M. Kumar](http://books.rediff.com/author/k.m.-kumar?sc_cid=www.google.com|author)-2004 | | |
| **Type of Teaching:** | 3 hrs in lectures  2 hrs laboratory working (practical). | | |
| **Pre-requisites:** |  | | |
| **Frequency:** | Yearly in the fall semester | | |
| **Requirements for  credit points:** | For the award of credit points which is 7, it is necessary to pass the module exams.  The module exams include (practical and theoretical)  **Student's attendance is required in all classes**. | | |
| **Credit point:** | 7 | | |
| **Grade Distribution:** | The Grade is generated from the examination result(s) with the following  35 % theory + 15% practical (lab.) = 50% Annual efforts  40 % theory + 10% practical (lab.) = 50% Final  35 % theory = 20% Mid-term exam + 10 Quiz (2 times) + 5 assignments  15% practical (lab.) = 10% (reports and quiz ) + 5% Mid-term exam | | |
| **Work load:** | The workload is 150 hrs. It is the result of 45 hrs attendance and 105 hrs self-studies. | | |

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