Course Syllabi

1. CCFF-00052 PHYSICS II (ELECTRICITY AND MAGNETISM)
2. 144 credits hours.
3. Bibliography

- Laboratorio virtual de física www.fislab.net, www.fislab.net, 2020
- Física universitaria: con física moderna, Sears F, Zemansky M, Young H, Freedman R, 2013
- Laboratorio virtual https://phet.colorado.edu/sims/, https://phet.colorado.edu/sims/, 2020
- Guías de los laboratorios de física, Raúl Ortíz, 2020

4. Specific Course Information

a. The subject of Physics, Electricity and Magnetism studies the principles and concepts of the physical phenomena that surround us. Here, we present the basic approaches and the theories that have had the greatest usefulness in the analysis of electrical loads, electric and magnetic fields, in addition to the electrical circuits RLC. Thus, the task of this subject, is to address the theoretical approaches of the electromagnetic field and the theory of basic electrical circuits. was that the student could understand and analyze the principles on which many of the elements and devices applied in the computer and telecommunications network environment have been created.

b. Prerequisites:
   - CCFF-00051 PHYSICS I (MECHANICS)

5. Learning Objectives of the Course

a. Study the phenomena and laws of electromagnetism by placing emphasis on the practical aspects and formulation of basic mathematical models, to culminate by enunciating the Maxwell Equations.
   - Know the phenomena of the movement of electric charges in drivers and their relationship with the fundamental laws of electric current
   - Understand the phenomena based on static loads and formulate mathematical models for force, electric field and electrical potential.
   - Know the ability ence and the influence of dielectrics on their value
   - Knowing the magnetic and electromagnetic phenomena variable in time, the coupling of magnetic fields, defining inductance and enunciating Maxwell's Equations.

b. Learning Outcomes
   - Knows the structure of the material and fundamental properties of the electric charging
   - Describes and analyses the penomement of the continuous electric corrent in metalic drugs, the laws that rize them and their characteristics
   - Describe magnetic penoments and variable electromagnetics at time and their characteristics.
   - Describe and form the models for electric force, electric camp and electric potential for distributions discrete and continues
   - Describe magnetic penoments and variable electromagnetics at time and their characteristics.
   - Knows the structure of the material and fundamental properties of the electric charging

6. Course Topics

- Electrical charge and electric fields
- Gauss act
- Electrical potential
- Training and dielectrics

- Current, resistance and electromotor force. direct current circuits
- Magnetic field and magnetic forces
- Magnetic field sources
- Electromagnetic induction and inductance
- Alternate current