

Course Syllabi

1. CCFF-00036 PHYSICAL II

2. Instructor:

- Angelica Maria Vele Salto

3. Bibliography

- Física universitaria Con física moderna/6040436, Hugh D. Young, Roger A. Freedman, Francis Weston Sears y Mark Waldo Zemansky Colaboración de A. Lewis Ford, 2013
- Física para ciencias e ingeniería con física moderna/111618, Douglas C. Giancoli, 2009
- Fundamentos de Física, Resnick, Robert ; Walker, Jearl; Halliday, David, 2012

4. Specific Course Information

- a. The subject of Physics II describes the physical phenomena in which electrical loads intervene at rest and in motion, using electric and magnetic fields for this purpose, analyzing their effects on solid, liquid and gaseous matter. With this subject, students will be able to understand and relate electrical and magnetic phenomena with the elements of their daily life and develop a critical and analytical mentality vis-à-vis scientific knowledge, providing them with tools such as experience This subject contributes to the graduate profile of the chemical engineering career in the following aspects: 1. Applying knowledge and skills in mathematics, physics and chemistry effectively as basic tools for problem solving in the field of chemical engineering. 2. Communicating effectively in oral and written form using the appropriate technical language, whether working individually. 7. Apply the basic foundations of training research, at the exploratory and diagnostic levels, in an appropriate way, for the development of experiments, for the search, selection and evaluation of information, for the preparation of bibliographical essays and academic articles and for the communication of findings.

b. Corequisites:

- MAES-00094 Comprehensive calculation

c. Prerequisites:

- MAES-00099 Physics I
- MAES-00101 Linear algebra
- MAES-00093 Differential calculation

5. Learning Objectives of the Course

- a. To train competent engineers capable of effectively applying the knowledge of physics, in the solution of problems in the field of chemical engineering, through effective communication with the use of appropriate technical language and the application of the basic fundamentals of research, at an exploratory level, essential in the search, selection and evaluation of information. - To provide future professionals with relevant knowledge of the basic sciences such as physics relation electricity and magnetism, which allow you to understand, describe, and solve problems in the field of Chemical Engineering. - Training professionals based on practical theoretical learning that enables you to acquire knowledge and skills for optimal professional performance. They will be developed through active forms of learning using modern technological tools and laboratory equipment. - Training a creative, versatile, adaptable, common professional capable of working in inter and multidisciplinary teams, motivated to continuously form, adapt to a changing industrial and social environment, and contribute to the well-being of society.

b. Learning Outcomes

1. Use simulation software packages effectively for troubleshooting.
2. Communicate effectively in oral and written form using the appropriate technical language, whether working individually or in interdisciplinary and/or multi-ethnic teams.
3. Apply the basic foundations of training research, at the exploratory and diagnostic levels, in an appropriate way, for the development of experiments, for the search, selection and evaluation of information.
4. Apply knowledge and skills in physics effectively as basic tools for problem solving in the field of chemical engineering.

6. Course Topics

1. Simple harmonic movement
2. Electrostatic
3. Capacity and capacitances
4. Electrodynamics
5. Electric circuits
6. Magnetism
7. Electromagnetism