

Course Syllabi

1. EDUC-00023 RESEARCH METHODOLOGY

2. 96 credits hours.

3. Bibliography

- Metodología de la investigación, Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P., 2016
- Guía para la formulación de proyectos de investigación, Castillo Sánchez, M., 2010
- Diseños y análisis de experimentos, Montgomery, D. C., 2010

4. Specific Course Information

- a. The subject includes, in an introductory way, the epistemological theme to explain the way in which new knowledge is interpreted and generated, then focuses mainly on the search for and selection of the best available scientific evidence. This requires the student to invest time in reading scientific-technical articles and in the management of research resources such as digital bases/repositories of bibliographic information, bibliographic management software among others. subject also provides basic elements to generate scientific communications with appropriate structure, according to the academic level of degree. Finally, the basic elements of the main research designs in the area of Industrial Engineering are addressed. Methodology of the research constitutes the first step in the preparation of the student so that, at the end of his career, he can generate a work of degree according to the current requirements of the higher education system. National, and aligned with the needs of society, industry and science. In addition, strengthen the values of researchers as objectivity, respect for evidence, respect for the point of view of the other, honesty with results, analytical rigor and critical thinking. The subject contributes to ABET's learning results: RA7. Autonomous learning: Acquires and applies new knowledge as required, using appropriate learning strategies.

5. Learning Objectives of the Course

- a. To know the methods and procedures used for the search of scientific/academic literature and writing of scientific communications, encouraging students to develop elementary skills for the execution of rigorous research; in addition, to communicate effectively in oral and written form using the appropriate technical language, either working individually or in interdisciplinary teams.
 - To know the basic concepts of science, scientific paradigms, the method scientific research and its processes, scientific research, types of research.
 - Know procedures for the search and selection of academic and/or scientific literature through the management of digital databases and identification of research designs
 - Introduce basic notions for the writing of scientific communications avoiding plagiarism through a correct application of APA standards
- b. Learning Outcomes
 - Ra7. distinguishing the fundamentals and the current organization of science, in order to understand the basic concepts related to the methodology of research and the scientific method
 - Ra7. distinguishing the fundamentals and the current organization of science, in order to understand the basic concepts related to the methodology of research and the scientific method
 - Ra7. distinguishing the fundamentals and the current organization of science, in order to understand the basic concepts related to the methodology of research and the scientific method
 - Ra7. to know the procedures for the search for academic and/or scientific literature and selection of

evidence from scientific information.

- Ra7. know the proper procedures for presenting research work in the area of industrial engineering.
- Ra7. to know the basic rules for the drafting of scientific communications avoiding plagiarism with the correct application of the apa standards.
- Ra7. know the proper procedures for presenting research work in the area of industrial engineering.
- Ra7. to know the procedures for the search for academic and/or scientific literature and selection of evidence from scientific information.
- Ra7. to know the procedures for the search for academic and/or scientific literature and selection of evidence from scientific information.
- Ra7. to know the basic rules for the drafting of scientific communications avoiding plagiarism with the correct application of the apa standards.
- Ra7. to know the basic rules for the drafting of scientific communications avoiding plagiarism with the correct application of the apa standards.

6. Course Topics

- General
- The scientific method
- Review of literature
- Academic work
- Academic writing
- Industrial engineering modalities