



NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF SCIENCES
ENGINEERING PHYSICS PROGRAM

IF562 – PHYSICS TECHNIQUES FOR INDUSTRY

I. GENERAL INFORMATION

CODE	: IF562 Physics Techniques for Industry
SEMESTER	: 10
CREDITS	: 5
HOURS PER WEEK	: 8 (Theory–Laboratory)
PREREQUISITES	: CF421 Laboratory of Intermediate Physics IF482 Introduction to Material Science and Engineering.
CONDITION	: Compulsory
DEPARTMENT	: Engineering Physics

II. COURSE DESCRIPTION

This is an integration course where students identify a technical problem or need in industry and develop a solution applying the methods and techniques of engineering physics. Students propose several possible solutions and select the most appropriate which is afterwards analyzed, detailed and implemented in a prototype. Identified problems are in the fields of mining, manufacture, bioengineering, agriculture, telecommunications, etc.

III. COURSE OUTCOMES

At the end of the course, students:

1. Research about industry technical problems and needs.
2. Interpret requirements and needs and formulate engineering problems.
3. Propose innovative and creative solutions to engineering problems.

IV. METHODOLOGY

The course takes place in workshop sessions where students complete the project under the supervision of faculty. For industry problem identification, students research and ask industry engineers who present their problems and needs. Students submit three partial reports and a final report which is defended in front of a jury. Besides technical aspects, student work includes the formulation of schedules and budgets.

V. GRADING FORMULA

The Final Grade PF is calculated as follow:

$$PF = TM$$

TM: Average of Project Partial Presentations and Final Defense.

VI. BIBLIOGRAPHY

Depends on each project.