



UNIVERSIDAD LIBRE®

Personería Jurídica No. 192 de 1946 de Mingobierno
Nit.: 860.013.798-5



FREE UNIVERSITY PEREIRA SECTION

UNDERGRADUATE PROGRAM IN ENVIRONMENTAL ENGINEERING



SUBJECT: RESEARCH METHODOLOGY

CODE: -----

SEMESTER: FIRST

HOURS WEEKLY: 4

THEORETICAL: 2

PRACTICES: 2

GOALS:

To train students to prepare and present research papers with the full of requirements demanded by the University and by ICONTEC regulations.

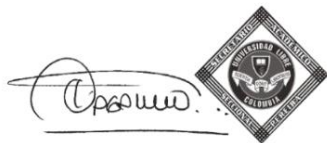
Develop methodologies and a spirit of research among students so that apply in the development of their university studies.





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METHODOLOGY:

Master classes by the professor, practical research work, assignments
in groups, specialized consultations and discussion panels.

CONTENT:

UNIT 1: EPISTEMOLOGICAL FOUNDATIONS

- The method of scientific research
- Applied sciences: Fundamental problems
- Theory about the method

UNIT TWO: THE RESEARCH PROJECT

- General models, types and structure
- Stages of the research process
- Model and knowledge of the problem





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UNIT THREE: PLANNING AN INVESTIGATION

- Problem identification
- Schedule of activities and resources
- Types and approaches to research
- Bibliographic review
- Population and sample
- The technical framework

UNIT FOUR: INSTRUMENTS OF MEASUREMENT AND RESEARCHER

- Equipment, interviews, questionnaires, tests
- Projective techniques, documents
- Need for measurement, types and characteristics of scales
- Operation of variables
- Statistics
- Electronic data processing

UNIT FIVE: TEST DESIGN





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• Observation and verification methods

- Experimental, semi-experimental and correlational designs

• Documentary research

- Descriptive research



UNIT SIX:

INTERPRETATION AND COMMUNICATION

• Statements and theories. Theoretical structures, new laws, and hypotheses

• Value of communication: requirements, reference and numbering system

• Publication and support



LITERATURE:

COHEN M and NAGEL E. Introduction to logic and the scientific method. Amorroti Editores,
Mexico, 1986.

SANABRIA A. The Research Work

CAMBEL D. Experimental and quasi-experimental designs in social research.





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ARIAS G. Introduction to research techniques in management and behavioral sciences. De.
Trillas. 1986.

