



NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF CIVIL ENGINEERING
CIVIL ENGINEERING PROGRAM

TE981 – RESEARCH PROJECT

I. GENERAL INFORMATION

CODE	: TE981 – Research Project
SEMESTER	: 10
CREDITS	: 03
HOURS PER WEEK	: 06 (Workshop)
PREREQUISITES	: Be in 10 th semester
CONDITION	: Mandatory

II. COURSE DESCRIPTION

The course is theoretical-practical in nature, with the character of a seminar whose contribution is to provide methodologies and technical tools to students that allow them to propose research projects applied to civil engineering to develop their professional degree thesis. At the ending of this course a Thesis Plan and progress of the same thesis will be presented.

III. COURSE OUTCOMES

The subject includes the following topics:

- Regulations and modalities of qualification.
- The construction sector and the ID.
- Scientific knowledge and applied research.
- Methodological considerations.

IV. LEARNING UNITS

- Requirements for obtaining the professional title. Modalities of qualification. Reflection on labor issues.
- Scope of the Thesis Plan. Problem identification and associated theoretical framework.
- Global and national trends related to the construction sector. Identification of topics to investigate in the current context.
- Research Management
- Research modalities. Information sources. Accredited Sources Presentation of research progress.
- Support of the Stepped Work No. 1 review, debate and contributions. Qualified evaluation.
- Problem statement and formulation of research objectives. Pose the hypothesis and identify the variables related to the investigation.

- Support of Stepped Work No. 2
- Approach and Characteristics of the hypothesis. Hypothesis test.
- Support of Stepped Work No. 3.
- Sample design Survey Design.
- Data analysis techniques.
- Scheme of research work, schedule and progress milestones; controls.
- Staggered Work Support N ° 4.

V. LABORATORIES AND PRACTICAL EXPERIENCES

Structured Work

VI. METHODOLOGY

The course is developed in sessions of theory, practice. In the theory sessions, the teacher presents the concepts, theorems and applications. In the practical sessions, various problems are solved and their solution is analyzed. At the end of the course the student must present and present their Thesis Plan.

VII. EVALUATION FORMULA

The learning will be evaluated through the "D" system.

- 6 Qualified practices, the one with the lower grade is eliminated: Weight 1, each
- Structured Work, first phase Research program: Weight 1
- Structured Work, second phase Final essay: Weight 1

$$FA = \frac{QP1 + QP2 + QP3 + QP4 + QP5 + SW1 + SW2}{7}$$

VIII. BIBLIOGRAPHY

- Corbetta, Piergiorgi (2007) Research Methodology and Techniques. Mc Graw Hill
- Hernández Sampieri (2007) Fundamentals of research methodology. Mexico. Mc graw hill
- Méndez Alvarez Carlos. (2001) Editorial Mc Graw Hill, 3rd. Edition