NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF ECONOMICS AND STATISTICAL ENGINEERING
STATISTICAL ENGINEERING PROGRAM

EB111 – INTRODUCTION TO TECHNOLOGICAL PROCESSES I

I. GENERAL INFORMATION

CODE	**:**	EB111 Introduction to Technological Processes II
SEMESTER	**:**	1
CREDITS	**:**	2
HOURS PER WEEK	**:**	3 (Theory – Practice)
PREREQUISITES	**:**	None
CONDITION	**:**	Compulsory

II. COURSE DESCRIPTION

The objective of this course is to provide a methodological approach to identify, classify and define business organizational processes through the mapping of its processes, with the aim to assure its efficient management. This course will make it possible to understand the transformation of the classical organization management into functions directed towards the modern process management. Such approach emphasizes the importance of considering the processes in terms of added value, establishing performance indicators and objectives based on objective measurements. This course offers the opportunity of quantitatively increasing the productivity through the design, the innovation and the power of the modern techniques. Students will acquire critical knowledge and necessary skills for the implementation of new processes using for this purpose use cases based on tools and techniques that make business key processes improvement easier.

III. COURSE OUTCOMES

1. Learn basic concepts of business development importance and management.
2. Develop the management process: Business activities planning, organization, management and control.
3. Apply methodologies to describe the symptoms or effects of problems lying in the processes of the organizations.
4. Apply techniques and tools to model business processes, with the aim of find out causes of the detected problems.
5. Design and apply improvement techniques and process redesign.

IV. LEARNING UNITS

1. HISTORY AND DEVELOPMENT OF MANAGEMENT THINKING, THEORIES AND APPROACHES OF THE ADMINISTRATION SCIENCE / 4 HOURS

Introduction to the administration, concepts and definitions / Administrative process phases.

2. THE ADMINISTRATIVE PROCESS / 16 HOURS

Planning / types of plans, opportunity, objectives and goals; SWOT analysis. Business vision, mission and objectives / organization / Concept, organizational design, organimetrics, handbook of functions, handbook of processes / Management / Leadership and empowerment, types of leadership / Control / Supervision, Quality standards ISO.

3. APPROACH BASED ON PROCESSES, PROCESS ORGANIZATIONAL STRUCTURE

The process and how it is represents / Business processes engineering, the reengineering and the improvement of processes / The current process / identification of needs / prepare relevant information: Questionnaire, interviews, observation / Description of the process.

4. PROCESSES APROACH ACCORDING TO ISO 9001:2000, MAPPING OF PROCESSES AND CRITICAL PROCESSES / 8 HOURS

Determination of the alternatives of solution / Elimination of bottlenecks / Phase simplification and unnecessary information / unification of redundant information.

5. REDISIGN OF PROCESSES / 8 HOURS

Business process vision: Specific objectives approach / The proposed process: Software project stages and phases. Evolution of models. Business processes model. Business process context. Standard notations for the business processes modeling. Artifacts of the business process modeling: Diagram of business use cases. Description of processes: CUN textual specification. Workflow Who execute them? Diagrams of activities. Specific objectives coverage by business processes.

6. PROCESSES PERFORMANCE MEASUREMENT, MONITORING AND INDICATORS / 12 HOURS

Carrying out of business use cases / Diagram of activities with lanes, identification of objects, information flow / Diagram of business objects types, relationship of Actor and workers to business entities.

V. LABORATORIES AND PRACTICAL EXPERIENCES:

Lab 1: Study of cases where administration is applied
Lab 2: Video: The goal. Report.
Lab 3: Video: Leadership. Report.
Lab 4: Video: Quality control. Report.
Lab 5: Video: Brewing. Report.
Lab 6: Description of current processes of the study area (The problems).
Lab 7: Business process vision – Business process objectives and glossary of terms.

VI. METHODOLOGY

Because of its nature the course requires students' active and permanent participation. Thee instructor will expose and students should interact with him, under the teaching/learning method through the cases method, using the board and computer means with visual aids (Webpage). Likewise, all subjects will be implemented with practical cases and workshop exercises with an information system approach, in the end through a conference, an integral and real accounting system will be introduced. Students should work in groups and individually, so that they can relate and apply administration tools and start developing their own business system.

VII. EVALUATION FORMULA

The average grade PF is calculated as follows:

PF = 0.30 * EP + 0.30 * EF + 0.40 * (L1 + L2 + L3 + L4 + L5)/4

EP: Mid-Term Exam EF: Final Exam
L#: Group Workshop

VIII. BIBLIOGRAPHY

1. **CHIAVENATO ADALBERTO.**
   Administration In New Times (Spanish). Mc Graw Hill, 2012
2. **HELLRIEGEL DON, JACKSON SUSAN.**
   Administration: An Approach Based on Competences (Spanish). Thomson ed., México, 2009
3. **COVEY STEPHEN**,
   Seven Habits of People Highly Effective (Spanish), El Comercio Editorial, 2006
4. **DRUCKER, PETER**.
   Management for The Future (Spanish). Edit. Norma, Colombia, 2003.