NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF GEOLOGICAL, MINING AND METALLURGICAL ENGINEERING
METALLURGICAL ENGINEERING PROGRAM

ME431 – ADMINISTRATION

I. GENERAL INFORMATION

CODE	**:**	ME431 Administration
SEMESTER	**:**	8
CREDITS	**:**	3
HOURS PER WEEK	**:**	3
PREREQUISITES	**:**	AHD65 Constitution and Human Rights
CONDITION	**:**	Compulsory

II. COURSE DESCRIPTION

At the end of this course, students will be able to: Apply basic knowledge of management science to organizational analysis, showing development of their conceptual abilities to participate in the solution proposal for the different phases of administrative process, be aware of the strategic administration for the short and long term business development. This course deals with the following subjects: the concept of administration as management process: nature of business. The concept of administration and organization. Administration functions: planning, organization, direction and control. Strategic administration: Formulation of strategies. External and internal assessment. Implementation of strategies. Aspects of marketing, finance and accounting. Research, development and systems of management information. Review, assessment and strategy control. Administration of global strategies.

III. COURSE OUTCOMES

1. Understand the nature, functions and historical evolution of administration belonging to a changing environment.
2. Acquire a clear understanding of planning process and decision making, knowing their techniques and restrictions.
3. Efficiently know, distinguish and apply direction, organization and entrepreneurial control processes through analysis of cases to train students in the conducting, resources assignment and design abilities.

IV. LEARNING UNITS

1. ADMINISTRATION AS MANAGEMENT PROCESS / 16 HOURS

Administration / Organizations / Managers / Management abilities / general and organizational performance / Administrative theory development / Administration schools and theories / Ethical and social responsibilities of organizations / Values, rights and obligations / Moral rules / Application of ethics.

Organizational culture / origin of culture / Culture learning and support / Environmental care culture.

Nature of enterprise / Definition, types / Efficiency, effectiveness, productivity, quality and competitiveness. Competitive product.

2. ADMINISTRATION FUNCTIONS / 20 HOURS
Decision making / Planning / Organizations / Organizational structure / Organizational design / Types of structures / Learning organization / Power and authority distribution / Centralization and decentralization / Organizational change and innovation / Creativity and innovation / Direction / Motivation / Leadership / Organizational communication / Information technology / group behavior / teams / Control / Organizational performance.

3. STRATEGIC ADMINISTRATION / 8 HOURS
Strategic administration / Formulation of strategies: vision, mission, values, objectives, types of strategies. External and internal assessment / Strategy implementation / Issues related to marketing, finance and accounting, research and development, and management information systems. Strategy review, assessment and control.

4. GLOBAL STRATEGIES ADMINISTRATION / 12 HOURS
Global strategies administration / Global megatrends / Challenges and problems that organizations face nowadays / New ways of administrating organizations / World Trade Organization / Multinational and transnational companies / Exportation and importations / Licenses / Franchise / Joint venture / free trade agreements / Benchmarking / Reengineering / Downsizing / Outsourcing / Brand value / Balance Scord Card.

VI. METHODOLOGY
Motivation, explanation, reflection and exemplification as well as debates, dialogs about cases and subjects presented will be employed, problem-type exercises will be performed to reinforce teaching.

VII. EVALUATION FORMULA
The average grade PF is calculated as follows:

PF = (EP + EF + (P1+P2+P3+TP)/4 + TI)4

EP: Mid-Term Exam EF: Final Exam TP: Practical work
P: Quizzes TI: Research paper

VIII. BIBLIOGRAPHY

1. **HELLRIEGEL/JACKSON/SCOLUM**
   Competency-based Management (Spanish)
   Thomson – Learning, 9th edition, Mexico (2012)

2. **ROBBINS/COULTER**
   Administration (Spanish)
   Prentice Hall Editorial 8th Edition, Mexico (2010)

3. **FRED R. DAVID**
   Concepts of Strategic Administration (Spanish)
   Person – Prentice Hall, 9th Edition, Mexico (2003)

IX. COURSE CONTRIBUTIONS TO STUDENT OUTCOMES ATTAINMENT

Course contributions to Student Outcomes are shown in the following table:

Level 1: Know
Level 2: Comprehend, calculate
Level 3: Model, apply, solve
Level 4: Apply at advanced level, design. Achievement of Student Outcome

Outcome	Contribution
1. Engineering Design Design and integrate metallurgical systems and components satisfying requirements and needs as well as given technical, economic, social and legal constraints and limitations.	
2. Problem solving Identify, formulate and solve engineering problems properly using the methods, techniques and tools of metallurgical engineering.	3
3. Sciences Application Apply the knowledge and skills of mathematics, sciences and engineering to solve metallurgical engineering problems.	
4. Experimentation and Testing Conceive and conduct experiments and tests, analyze data and interpret results.	
5. Modern Engineering Practice Use and apply techniques, methods and tools of modern engineering necessary for the practice of metallurgical engineering.	
6. Engineering Impact Understand the impact of metallurgical engineering solutions on people and society in local and global contexts.	3
7. Project Management Determine the budgets, schedules and feasibility of engineering projects, and participate in its management for the attainment of goals.	3
8. Environmental Appraisal Take into account the importance of preserving and improving the environment in the development of their personal and professional activities.	
9. Lifelong Learning Recognize the need to keep their knowledge and skills up-to-date according to advances of metallurgical engineering and engage in lifelong learning.	3
10. Contemporary Issues Know and analyze relevant contemporary issues in local, national and global contexts.	3
11. Ethics and Professional Responsibility Evaluate their decisions and actions from a moral perspective and assume responsibility for the executed projects.	3
12. Communication Communicate clearly and effectively in oral, written and graphical formats, interacting with different types of audiences.	3
13. Teamworking Appraise the importance of teamworking and participate actively and effectively in multidisciplinary teams.	3