NATIONAL UNIVERSITY OF ENGINEERING
COLLEGE OF ENVIRONMENTAL ENGINEERING
ENVIRONMENTAL ENGINEERING PROGRAM

AU411 – URBAN AND REGIONAL PLANNING

I. GENERAL INFORMATION

CODE	**:**	AU411 – Urban and Regional Planning
SEMESTER	**:**	
CREDITS	**:**	03
HOURS PER WEEK	**:**	04 (Theory – Practice)
PREREQUISITES	**:**	AA226 – Economic Theory
CONDITION	**:**	Elective

II. COURSE DESCRIPTION

The course is of theoretical and practical nature, and prepares the student in the historical analysis of the concepts and trends of urban and regional planning in the world to relate them to the national and regional urban reality of Peru. The Influence of the great social, cultural, industrial and technological revolutions and development models is studied to better understand the problems of urban growth, centralism, migration, and regional development in Peru. Multimodal transport, satellite and intermediate cities are studied as expressions of modern urban growth. The new approaches of sustainable and ecological cities, the relations between nature and urban ecology, the cities of the future and the sustainable region, linked to the contributions that environmental, sanitary, hygiene and industrial safety engineering could make in the solution of urban problems of Peru.

III. COURSE OUTCOMES

By the end this course the student will:

- Analyze the historical concepts and trends of urban and regional planning in the world and relates them to the problematic of the urban and regional reality of Peru.
- Interpret and explain the influence of the great social, cultural, industrial, technological revolutions and relate them to the prevailing models of development in the world.
- Establish relations between the models of development prevailing in the world and the problems of urban growth, centralism, migration, regional development in Peru.
- Interpret and describe the trends of modern urban growth such as multimodal transport, satellite and intermediate cities and explains the reasons, factors, limitations or restrictions of its application in Peru.
- Understand new approaches to sustainable and ecological cities, the relationships between nature and urban ecology, the cities of the future and the sustainable region; Relate these concepts to the needs and demands of a better quality of life.
- Propose contributions to schemes of sustainable urban plans linked to the Peruvian reality from the field of environmental, sanitary, hygiene and industrial safety engineering of the FIA.

IV. LEARNING UNITS

1. **CONCEPTS AND HISTORICAL TRENDS OF URBAN AND REGIONAL PLANNING IN THE WORLD / 8 HOURS.**
   Basic concepts: Development, types. Sustainable development focused on cities and regions. The development and planning. Indicators of national and regional development. Brief approach to the historical evolution of cities in the world. Brief reference to the historical evolution of Lima and its major problems.

2. **THE GREAT SOCIAL, CULTURAL, INDUSTRIAL, TECHNOLOGICAL REVOLUTIONS AND THEIR INFLUENCE ON URBAN PROBLEMS. / 8 HOURS.**
   The Cultural Revolution, the rebirth. The industrial Revolution. The city coal and social problems (Mumford's historical approach). The urbanism builder and urbanism destroyer. The utopian socialism of Fourier, Godin and Owen and their models of community cities.

3. **THE MODELS OF DEVELOPMENT IMPERATIVE IN THE WORLD AND THE PROBLEMS OF URBAN GROWTH / 12 HOURS.**
   The urban society. The social structure and the appropriation of space. The urban economy The satellite cities. The transport revolution, large concentrations, pollution, slumming. The modern utopians: Le Corbusier. The trends of urban growth in the main Latin American cities: cases of Sao Paulo, Mexico, Buenos Aires, Santiago.

4. **MODERN URBAN GROWTH / 8 HOURS.**
   Characteristics of the contemporary urban unit. The urbanization process. Migrations, marginal populations, discriminations and urban and social segregations due to wars and political conflicts. The problem of industrial location, green areas and recreation. The demand for services in the city and the misuse of natural resources. The global and regional planning system. Comparative approach in relation to Peru: the regionalization tests and a look at the current situation. The urban development plans of the Ministry of Housing.

5. **BRIEF REFERENCE TO THE METHODS OF URBAN-REGIONAL CLASSIC THEORIES / 12 HOURS.**
   The classic methods of urban-regional science research: the descriptive empirical method, the analysis of urban forms and the sectorization of cities. The analog method. The structural method. Operational methods: a) descriptive, b) correlational, c) explanatory-proactive. The classical theories of regional urban development: a) the theory of urban ecology, b) the theory of the central place, c) the theory of the poles of development, d) the systems of cities and regional networks. Exercises.

6. **URBAN PLANNING SCHEME APPLIED TO PERUVIAN REALITY: CONTRIBUTIONS FROM ENVIRONMENTAL ENGINEERING / 12 HOURS.**
   Monographic work focused on the development of the plan format: Foundation. Compilation of basic data. The values, vision and mission of the plan. The external context The diagnosis (brief reference to the SWOT analysis). Definition of prospective, scenarios. The prospective procedure: diagram. Strategic projects and strategic programs. Evaluation indicators. Exhibition of work.

V. LABORATORIES AND PRACTICAL EXPERIENCES

Qualified Practice 1 (QP1): Identification, description and characterization of the problems of urban growth in Peru (Lima and the regions) using categories of Urban and Regional Planning.

Qualified Practice 2 (QP 2): The models of global development and their influence on the changes of the urban and regional structure in the Peruvian territory: use and interpretation of indicators.

Qualified Practice 3 (QP 3): Basic concepts of the global and regional planning system. The classical methods of urban-regional research.

Qualified Practice 4 (QP 4): The classical theories of regional urban development.

Monographic work (M): Case study on a specific problem of urban and regional planning of Peru: contributions from the field of Environmental Engineering, Sanitary and Hygiene and Industrial Safety.

VI. METHODOLOGY

The course is developed in theory and practice sessions. The practices are developed through workshops and exercises of selected topics of Urban and Regional Planning linking them with cases or problems of the urban growth of Peru, the centralism of Lima, the Human Settlements, the urban informality, the insecurity, physical and environmental risks, the problems of transportation, the lack of health services, regional imbalances, etc. Students analyze these problems in workshops and raise contributions and solutions from the field of their specialties through monographic work. In all the sessions, the active participation of the student is promoted.

VII. EVALUATION FORMULA

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

- Partial Exam: Weight 1
- Final Exam: Weight 2
- Average of Practices: Weight 1. Four practices are taken, one is eliminated.

Calculation of the Final Average:

$$FA = \frac{PE + 2FE + \frac{QP1 + QP2 + QP3}{3}}{4}$$

PE: Partial Exam; FE: Final Exam, QP: Qualified Practice

VIII. BIBLIOGRAPHY

- ANDRÉS E. MIGUEL, JULIO C. TORRES, PEDRO MALDONADO. Fundamentos de la Planificación Urbano Regional, 2011. Primera Edición. Oaxaca, Oaxaca, México. 283 p.

- LEWIS MUMFORD. La Ciudad en la Historia sus Orígenes, Transformaciones y Perspectivas. CAP. XV: Villa Carbón. Biblioteca Virtual Universal, 2006. Universidad de Buenos Aires.

- MATOS MAR, José. Crisis del estado y desborde popular. CHAPTER 3. El nuevo rostro urbano: la forja de una identidad.

- MINISTERIO DE VIVIENDA, CONSTRUCCION Y SANEAMIENTO. Dirección Nacional de Urbanismo. Manual para la elaboración de Planes de Desarrollo Urbano. Lima, diciembre 2009. 146 p.