

*People's democratic republic of Algeria*

*Ministry of higher education and scientific research*

**LICENSE TRAINING OFFER**

**ACADEMIC**

<b>Establishment</b>	<b>Faculty</b>	<b>Department</b>
<i>Mohamed Khider University, Biskra</i>	<i>Faculty of Exact Sciences and Natural Sciences and Life</i>	<i>Earth Science and the Universe</i>
<b>Domain</b>	<b>Study</b>	<b>Specialty</b>
<i>Earth Science and the Universe (ESU)</i>	<i>Geography and Planning of the Territory</i>	<i>Geography and Planning of the Territory</i>

## Semester01

Teaching unit	Title of subjects	credits	coeff	Weekly Courier Volume			WCV (14 weeks)	others	evaluation method	
				course	tutorials	practical work			Content	Examen
<b>EU Fundamental</b> Code : UEF11 Credits: 8 Coefficients : 4	Analysis of geographical space and territorial planning 1	8	4	3H00		3h00	90h00	45h00	40	60
<b>EU Fundamental</b> Code : UEF12 Credits: 8 Coefficients : 4	General geology	4	2	1h30		1h30	45h00	45h00	40	60
	Cartographic tech	4	2	1h30		1h30	45h00	45h00	40	60
<b>Methodological EU</b> Code : UEM11 Credits: 10 Coefficients : 8	Biology	3	2	1h30	1h30		45h00	45h00	40	60
	Chemistry	2	2	1h30		1h30	45h00	45h00	40	60
	Mathematics 1: Mathematical	3	2	1h30	1h30		45h00	45h00	40	60
	Physique 1	2	2	1h30	1h30		45h00	45h00	-	100
<b>EU Discovery</b> Code : UED11 Credits: 2 Coefficients : 1	computer science1	2	1	1h30			22h30	45h00		100
<b>Transversal EU</b> Code : UET11 Credits: 2 Coefficients : 2	French language 1	2	1	1h30			22h30	45h00		100
<b>total semester01</b>		30	19	15h00	4h30	7h30	405h00	405h00		

## Semester02

Teaching unit	Title of subjects	credits	coeff	Weekly Courier Volume			WCV (14 weeks)	others	evaluation method	
				course	tutorials	practical			Content	Examen
<b>EU Fundamental</b> Code : UEF11 Credits: 8 Coefficients : 4	Analysis of geographical space and territorial planning 1	8	4	3H00		3h00	90h00	45h00	40	60
<b>EU Fundamental</b> Code : UEF12 Credits: 8	Urban planning	4	2	1h30		1h30	45h00	45h00	40	60
	geomorphology	4	2	1h30		1h30	45h00	45h00	40	60
<b>Methodological EU</b> Code : UEM11 Credits: 10 Coefficients : 8	Mathematics 2 Statistics	3	2	1h30	1h30		45h00	45h00	40	60
	Physique 2	2	2	1h30		1h30	45h00	45h00	40	60
	Introduction to geomatics	3	2	1h30	1h30		45h00	45h00	40	60
	Physique 2	2	2	1h30	1h30		45h00	45h00	-	100
<b>EU Discovery</b> Code : UED11 Credits: 2 Coefficients : 1	Computer science2	2	1	1h30			22h30	45h00		100
<b>Transversal EU</b> Code : UET11 Credits: 2 Coefficients : 2	French language 2	2	1	1h30			22h30	45h00		100
<b>total semester02</b>		30	19	15h00	4h30	7h30	405h00	405h00		

## Semester03

Teaching unit	Title of subjects	credits	coeff	Weekly Courier Volume			WCV (14 weeks)	others	evaluation method	
				course	tutorials	practical work			Content	Examen
EU Fundamental Code : UEF211 Credits: 9 Coefficients : 6	Hydrology	5	3	1h30	1h30		45h00	45h00	40	60
	Bioclimatology	4	3	1h30	1h30		45h00	45h00	40	60
EU Fundamental Code : UEF12 Credits: 8 Coefficients : 4	Cities and regions	4	2	1h30	1h30		45h00	45h00	40	60
	Demographic analysis	4	2	1h30	1h30		45h00	45h00	40	60
Methodological EU Code : UEM11 Credits: 9 Coefficients : 8	Remote sensing	5	2	1h30	1h30		45h00	45h00	40	60
	Introduction to Geographic	4	2	1h30		1h30	45h00	45h00	40	60
EU Discovery Code : UED11 Credits: 3 Coefficients : 3	Analysis Of Cartographic	2	1	1h30	1h30		45h00	45h00	-	100
	Economy	1	1	1h00			22h30	45h00	-	100
Transversal EU Code : UET11 Credits: 1 Coefficients : 1	Language 3	2	1	1h30			22h30	45h00		100
<b>total semester</b>		30	18	13h00	7h30	3h000	360h00	315h00		

## Semester03

Teaching unit	Title of subjects	credits	coeff	Weekly Courier Volume			WCV (14 weeks)	others	evaluation method	
				course	t u	p r			Content	Examen
EU Fundamental Code : UEF11 Credits: 8 Coefficients :	Algeria: Space and society	4	3	1h30	1h30		45h00	45h00	40	60
	Water and development	4	3	1h30	1h30		45h00	45h00	40	60
EU Fundamental Code : UEF12 Credits: 8 Coefficients : 4	Physical environments	4	2	1h30	1h30		45h00	45h00	40	60
	Rural environment	4	2	1h30	1h30		45h00	45h00	40	60
	urban environments	4	2	1h30	1h30		45h00	45h00	40	60
Methodological EU Code : UEM11	:Investigation techniques	3	2	1h30	1h30		45h00	45h00	40	60
	Field internship	4	2	-	-	-	45h00		10 0	
EU Discovery Code : UED11 Credits: 2 Coefficients :	Sociology	1	1	1h30	1h30		45h00	22h30	40	60
Transversal EU Code : UET11 Credits: 2 Coefficients : 2	Ethics and professional conduct	1	1	1h30			22h30	22h30	40	60
	Foreign language	1	1				22h30	22h30		100
<b>total semester</b>		30	17	13h00	9h00	00h000	337h30	337h30		

## semester 5

Teaching unit	Title of subjects	credits	coeff	Weekly Courier Volume			WCV (14 weeks)	others	evaluation method	
				course	t u	p r			Content	Examen
EU Fundamental Code : UEF11 Credits: 9 Coefficients :	Technique and practice of planning	5	3	1h30		1h30	45h00	45h00	40	60
	Land use planning policies	4	2	1h30	1h30		45h00	45h00	40	60
EU Fundamental Code : UEF12 Credits: 8 Coefficients : 4	Networks and territory	4	2	1h30	1h30		45h00	45h00	40	60
	Mobility and transport	4	2	1h30	1h30		45h00	45h00	40	60
Methodologica 1 EU Code : UEM11	Workshop	4	2			3h00	45h00	45h00	40	60
	Applications des SIG	4	2	1h30	1h30	-	45h00	45h00	100	
EU Discovery Code : UED11 Credits: 4 Coefficients :	Facilities and services	4	2	1h30	1h30		45h00	45h00	-	100
Transversal EU Code : UET11 Credits: 1 Coefficients : 1	language	1	1	1h30			22h30	45h00		100
<b>total semester 5</b>		30	16	10h30	7h30	6h00	336h00	336h00		

**semester 6**

Teaching unit	Title of subjects	credits	coeff	Weekly Courier Volume			WCV (14 weeks)	others	evaluation method	
				course					Content	Examen
EU Fundamental Code : UEF11 Credits: 9 Coefficients : 5	Governance and local development	4	3	1h30	1h30		45h00	45h00	40	60
	Activities and organization	4	2	1h30	1h30		45h00	45h00	40	60
EU Fundamental Code : UEF12 Credits: 8 Coefficients : 4	: Risks and territorial	4	2	1h30	1h30		45h00	45h00	40	60
	Environment	4	2	1h30	1h30		45h00	45h00	40	60
Methodological EU Code : UEM11	: Research methods	2	1	1h30			45h00	45h00		100
	An onsite training	10	3			-	45h00	45h00	100	
EU Discovery Code : UED11 Credits: 4 Coefficients :	Territories and globalization	2	1	1h30			22h30	45h00	-	100
<b>Total Semester 06</b>		30	13	9h00	6h00	-	270h00	315h00		

## **Detailed program by subject**



# **Semester 1**

**fundamental unit**

**Course title: Analysis of geographical space and territorial planning1**

**credits:8**

**Coefficients:4**

Contents:

Definitions

Objects of the development

Notions of geographical space, environment and environment

Chapter 1: Physical space

Definition

The components of the physical environment

The edaphic components

-The climatic components

Localized space, multiple transformed space,

Socialization of physical space

Chapter 2: Rural space

Rural space and physical environment The diversity of rural spaces

Factors common

Diversity of rural spaces (geographic and structural)

Large rural spaces

..1.Agricultural areas

.2.Forest areas

.3.Mountain areas

.4.Pastoral spaces

Agrarian structures

Housing in the rural world Relationship city companion Changes in the rural world

**Practical work:**

Basic topographic mapping:

- .Reference system and geodetic networks
- .Geographic coordinates
- .Cartographic projections
- .Scales of representation

Content and reading of the topographical map.

- .The different types of information
- .Modes of representation of relief, infrastructures and natural elements. . Topographic sectioning and creation of block diagrams.
- .Commentary on topographic sections on various geographical environments.
- .Calculation of altitude and slopes

Topography and hydrographic network.

- .Map and hypsometric curve.

Slope map

Network organization and hierarchy. Charts from isohyets and climatic gradients

Evaluation method: Continuous monitoring and review

**fundamental unit**

**Course title: Geology**

**Credits:4**

**Coefficients:2**

Contents:

- Introduction, Objects of geology
- The earth in the universe, and in the solar system

Chapter1:

- Plate tectonics.
- Distribution of earthquakes and volcanoes.

-Tectonics and associated structures

-Fractures or faults,

-The folds

Chapter 2:

Concept of mineralogy

- Concept of crystallography and crystal lattices.
- Classification of minerals: the major groups of silicates.

Chapter3: Petrography

- From mineral to rock.
- Large groups of rocks
- Magmatic rocks
- Metamorphic rocks
- sedimentary rocks.

Chapter 4:Notions of historical geology and stratigraphy

- The principles of stratigraphy
- Concept of formation and the fundamental divisions of time in geology.

## Chapter 5: The major structural groups of Algeria and the Maghreb

- The Saharan domain
- The Atlas domain
- The Tello-Rif domain or domain of the Maghrebids

### Practical work:

- Geological maps
- Production of geological sections (Different types of structures.)
- Petrography - Mineralogy

Concept of crystallography, the seven crystal systems

Macroscopic determination of some minerals: quartz, calcite, feldspars, amphibole, pyroxene, biotite, muscovite, pyrite, galena, graphite,

Large groups of rocks Magmatic rocks Metamorphic rocks Sedimentary rock

## **fundamental unit**

**Course title: Techniques cartographic**

**credits:4 Coefficients 2**

### **Contents:**

Chapter I: Introduction to cartographic representation

1-1- Introduction to the use of mapping instruments.

- Presentation of the different drawing media.
- Map design: title, legend, scales, writings.

-2-1The basics of cartographic expression

- Implementation (punctual, linear, zonal)
- Visual variables (image and separation)

-3-1Types of cards to make

-1-3-1Analysis cards

Point map, proportional symbols of the abacus, qualitative symbols, networks, flows, areas and ranges.

1-3-2- Summary cards

- Cards in alternating strips
- The triangular diagram

Chapter II: Introduction to graphics

-1Introduction: the importance of graphics 2- Purpose of the graph

- Information levels
- Forms of graphic intervention:
- matrix analysis of a problem
- graphic processing of information.

-3Graphic constructions

- permutation matrices: orderable, weighted, inventory of curves, networks.

**Methodological unit**

**Course title: Biology**

**redits:3**

**Coefficients: 2**

Contents:

Introduction

Chapter 1: Concept of cyto-physiology

-1 Prokaryotic cell: obligatory and optional elements 2- Animal and plant eukaryotic cells

Plasma membrane

Interphase nucleus (concept of cytogenetics - mutations and evolution.)

Endomembrane system and proteins.

Semi-autonomous organelles and energy production.

Main specializations of the plant cell

- Chloroplast and photosynthesis

The plant wall and its modifications

Chapter 2: Concept of ecology

Definitions

Structure and functioning of ecosystems

Level trophic

Main biogeochemical cycles (water, carbon, oxygen and nitrogen)

-Energy flow.

Ecological balance and environment.

Chapter 3: Some notions on the summary classification of the living world

Evaluation method: Continuous + Exam

## Methodological unit

Course title: Chemistry

credits: 2

Coefficients: 2

Contents:

Chapter 1: Structure of matter

- The constitutions of the atom.
- Chemical elements and isotopes. Concept of radioactivity. Nuclear reactions Bohr atom, quantification of energy,
- The atom in quantum mechanics quantum numbers – concept of orbitals. - Atomic structure of elements.
- Periodic table, periodic properties of the elements.

Chapter 2: Chemical bonds

- Molecular buildings – structural and electronic aspects. - Covalent bonds: Lewis-VSEPR-Hybridation theory ( $SP$ ,  $SP^2$  and  $SP^3$ ) Metallic connections: simple, centered and face-centered cubic metal structures. - Ionic bonds: NaCl and CsCl types.
- Weak bonds: hydrogen bond and Van Der Waals bond.

Chapter 3: Introduction to Thermodynamics

-Notion of system, quantities and state function (application to ideal gases) -1st principle of THD (Energy, work and heat ( $U, W, Q$ )) (Thermochemistry (enthalpy and heat of reaction)

2nd Principle of THD: entropy and free enthalpy.

Chapter 4: Chemical equilibrium

-Law of mass action.

-Le Chatelier's law (influence of temperature, pressure and concentration) -Acid-base balance: pH of solutions – acid-base dosage. -Oxidation-reduction balance

-Heterogeneous equilibrium (sol-liquid) concept of solubility

Chapter 5: Physical methods of analysis

-AND-RX



## **Methodological unit**

**Course title:mathematics I: Mathematical analysis**

**credits:3 Coefficients:2**

Contents:

- 1Linear algebra
  - Vector space, base, dimension.
  - Linear application, Kernel, Image, rank.
  - Matrices, Determinants
  - Systems of linear equations
- 2 Geometry in space
  - reminder of plane analytical geometry
  - Foundations of geometry in space
  - Definition of a plan
  - Relative position of a line and a plane
  - Straight lines perpendicular to a plane, parallel and perpendicular planes, particular planes
- 3 Point transformations: (Translations, Homotheties, Projections, Symmetries, Similarities, isometries, etc.) - Definition, Properties, characteristic elements.
  - Characterization and matrix study of the different transformations,- Representation in the complex plane.
- 4 Polyhedra: prisms, parallelepipeds, pyramids. Revolution volumes. Spheres, ellipse.Evaluation method:Continuous + Exam

References:N. Piskounov.Differential and integral calculus. Volume 1.Editions Mir. 510 pages.

C. Deschamps et al.MPSI All-in-One Math.Dunod, 3thedition, 2013, 1088 pages. B. Belaidi.Mathematical analysis.OPU, 2013, 312 pages

## **Methodological unit**

**Course title: Physique 1**

**Credits:2**

**Coefficients :2**

Contents:

Chapter 1: Electricity and magnetism

-°1 Electrostatique

- Electric field and potential
- Driver balance
- Capacitors

-°2 Electrokinetics

- Conduction electric
- Ohm's law, Joule's law
- Circuits electric
- Theorems of Thévenin and Norton

-°3 Electromagnetism

- Definition of the magnetic field
- Current - field interaction (Laplace's law)
- Formula of Ampere

Chapter 2: Radiation

-°1 Generality Electromagnetic radiation, Particle radiation Detection of radiation

Energy spectrum of radiation Cells Photoemissive

-°2 Production of X-rays

-°3 Radiation – matter interactions Photoelectric effect Effect Compton

Materialization effect

Attenuation – Protective screen.

Practical work:

Montage potentiometric

Topography of an electromagnetic field (rheographic tank) Oscilloscope (function, use and application to ddp measurements) Resistance measurements and characteristics

RC and RL circuit in transient mode

Resonant RLC circuit

Analyse spectral

Study of the photoemissive cell X-ray emission and reception Attenuation of radiation

Evaluation method: Continuous + Exam

## **Discovery unit**

**Course title:Computer science 1**

**credits:2**

**Coefficients :2**

Contents:

Chapter1:Presentation

Chapter2: - The Hard

-Introduction to the concept of computer

-Computer presentation

-Types of computers

- Constitution of the computer

Chapter 3: - Operation

- Systemsoperating

- Windows- Word processing

Chapter 4: Office software (manipulation(

Word,

Excel..... ,

Office automation work (handling(

- The Internet The network Internet Intranet

The Web

- Thenavigation

- search on the internet network

- e-mail

Evaluation method:Exam

References

- Computers and data processing in 15 lessons, P. MORVAN, Ed. Radio, 1977 The...  
How does it work? DUNOD (collection(
- Principles of computer operating systems,S.  
KRAKOWIAK, Dunod, 1987 -The professional Internet,(collective work),  
Editions du CNRS, 1995.
- Word, Excel, Access, PowerPoint 2007 by Dan Gookin, Editions Générales First,  
05/23/2007\

## **Transversal Unit**

**Course title:French language 1**

**credits:2**

**Coefficients:1**

Contents:

### GRAMMAR

- The punctuation
- Types of sentences: The negative form, The simple sentence, The interrogative sentence.
- The subject noun group: G – N – S.
- The verbal group
- The adjectivequalifier
- The articles

### CONJUGATION

- THE verbs
- Times, fashions, people
- The present indicative of the 3 groups.
- Past tense

### VOCABULARY

- THE homonyms
- THE opposites
- Words from the same family
- Word formation
- Verb and suffix
- THE suffixes
- Prefixes

Evaluation method:Exam

**Semester:2**

**Fundamental Unit Course title:**

**Title of subject F211: Analysis of geographical space and territorial planning 2**

**credits:5**

**Coefficients:3**

Contents:

Chapter 1: Urban space

The different facets of urban space

Site and location

Methods of approach and definition of the urban phenomenon

Typology of cities

Organization of the urban structure (Theories(

- structure urban
- schemesurban
- plans urban

The city, development and the environment

Current city problems

Chapter 2 : Organization of space Types and hierarchy of space Unorganized spaces  
Unbalanced spaces

Organized spaces

Chapter 3: Land use planning policy Concept of region and territory City and Region

Regionalization

Territorial planning in Algeria Experience in other countries Workspractice

- Sector map
- Population map and population density
- Map of urban and regional flows
- Urban morphology map



- Network map
- Easements map
- Equipment map
- Map of urban dynamics
- Hierarchy of cities

## **Fundamental Unit**

**Course title: Urban Planning**

**Credits : 5**

**Coefficient : 3**

1/ Definition of the Concept of Urban Planning as a Discipline

2/ Utopias and Founding Theories of Urban Planning

3/ Genesis of cities

4/ Current Practices in Urban Planning

Planned Urbanism and its Urban Forms

Spontaneous Urbanism and its Various Expressions

5/ Introduction to Understanding Interventions in Urban Areas

Concepts of Planning and Spatial Development

Planning Models (Strategic, Tactical, Operational)

Planning Scales, Urban Territory Divisions, and the Concept of Development Zones

Strategies for Urban Action

Actor Logics and Urban Policy

6/ The Neighborhood and its Urban Planning Documents

Concept of Urban Planning Requirements and Documents at the Neighborhood Level

(Specifications, Safeguard and Enhancement Plans, Protection Plans, Development Plans)

Tools and Actions for Neighborhood Development (Rehabilitation, Restructuring,

Requalification, Revitalization, New Neighborhoods, etc.)

Evaluation method: Continuous monitoring and exam

References

1- NEUFERT E., The Elements of Construction Project

2 - WRIGHT D., Sun, Nature, Architecture

3 - MURET J.P., ALLAIN Y.M., SABIE L., Urban Spaces; Ed Le Moniteur

4 - RAVEREAU A., Casbah and the Created City Site

5 - BENEVOLO L., History of the City. Parenthèses. Marseille 2000

6 - RAGON M., Man and the City

## **Fundamental Unit**

**Course title: Geomorphology Credits:4**

**Coefficients:2**

Contents:

.1 Introduction

.2 Structural data

The general structure of the globe

Tectogenesis and orogeny

Rocks and their genesis

.3 Elementary structural forms

Sedimentary structures

Crystal structures

Faulted structures

.4 The major morphostructural units and their contacts

The platforms

Alpine folded systems

.5 The relationship between hydrography and geological structure

.6 Concepts on dynamic geomorphology

.7 The use of detailed geomorphological maps Evaluation method:Continuous monitoring and review References

1 -SWYSEN, Natural spaces: geology, geomorphology, ecology,

2 -AUBOUIN J., Summary of geology,

3 -TRICART Jean., principles and methods of geomorphology.,

4 -TRICART, Jean. Summary of geomorphology,

5 -GEORGES Viers., Elements of geomorphology,

6 -BIROT P., Summary of general physical geography

## **Methodological unit**

**Course title: Mathematics 2 Statistics**

**credit 3**

**coefficient 2**

Contents:

CH1 : Introduction

- Definition of descriptive statistics
- Population and statistical units
- Sample from a statistical population
- Analysis of a statistical population according to different criteria or “characters”
- Methods of grouping statistical units

CH2: Study of a variable

- Presentation: tables and graphs
- Workforce
- Workforcecumulative
- Frequencies
- Location settings
- Dispersion settings

CH3; Study of two variables

- Additionfunctional
- Function
- Presentationchart
- Adjustmentlinear
- THEdeviations
- Least square line

CH4: Random variables

- Distribution of the values of a variable
- Properties of probabilities
- Distribution function
- Discrete variable and continuous variable
- Position parameter and dispersion parameter
- The laws of probability (- Law of Gauss, Galton, Gumble, Frechet, PersonIII) Evaluation

## **Methodological unit**

**Course title. Introduction to geomatics**

**Credits.3**

**Coefficients.2**

Contents:

Chapter 1: Introduction to Geomatics

- Definition of geomatics and its origins.
  - The evolution of geomatics and the impact of technology on its development.
- Chapter 2: Geomatic Data Collection Techniques

- Methods for collecting data from various sources such as satellites, global positioning systems (GPS), and aerial sensors.

- Analysis of topographical survey and remote sensing tools. Chapter 3: Storage and Management of Geomatic Data

- Geospatial database systems.

- Managing large data and storage challenges. Chapter 4: Geomatic Data Analysis

- Use of geographic information systems (GIS) in the analysis of geomatics data.

- Modeling of spatial phenomena and use of data for decision-making. Chapter 5: Visualization and Communication of Geomatic Data

- Visual representation of data using maps, charts, and other graphical tools.

- Techniques for effective communication of results to decision-makers and the general public

Chapter 6: Practical Applications of Geomatics

- Applications in areas such as urban planning, natural resource management, etc.

- Illustrative case studies.

Chapter 7: Future Challenges and Innovations in Geomatics

- Expected developments in the field of geomatics.

- New innovations and their potential impact on the field.

## **Methodological unit**

**Course title: Physique 2**

**Credits 3**

**Coefficients.2**

Contents:

Chapter 1: Electricity and magnetism

-°1 Electrostatique

- Electric field and potential
- Driver balance
- Capacitors

-°2 Electrokinetics

- Electrical conduction
- Ohm's law, Joule's law
- Circuits electric
- Theorems of Thévenin and Norton

-°3 Electromagnetism

- Definition of the magnetic field
- Current - field interaction (Laplace's law)
- Formula of Ampere

Chapter 2: Radiation

-°1 Generality Electromagnetic radiation, Particle radiation Detection of radiation

Energy spectrum of radiation

Photoemissive Cell

-°2 Production of X-rays

-°3 Radiation – matter interactions Photoelectric effect Effect Compton

Materialization effect



Attenuation – Protective screen.

Practical work:

Montage potentiometric

Topography of an electromagnetic field (rheographic tank) Oscilloscope (function, use and application to ddp measurements) Resistance measurements and characteristics

RC and RL circuit in transient mode

Resonant RLC circuit

Analyse spectral

Study of the photoemissive cell X-ray emission and reception Attenuation of radiation

Evaluation method: Continuous + Exam

**discovery unit**

**Course title: Computer science2**

**Credits:2**

**Coefficients:2**

Contents:

- .1 The characteristics of a digital image
- .2 Introduction to digital image processing (Photoshop.(
- .3 Use of important terms (format, scanning, color chart, background color, foreground color,density, brightness, contrast, etc(.
- .4 Use of image transmission systems,
- .5 Acquisition of digital image processing techniques,
- .6 Recovery of images, photographs,
- .7 Digital image retouching.

**transverse unit**

**Course title: language**

**credits:2**

**Coefficients:2**

Contents:

Improvement in oral and written English (scientific English applied to geography.-  
Practice of fluent and technical English.

**Semester3**

**fundamental unit**

**Course title:Hydrology**

**credits:5**

**Coefficients:3**

Contents:

Chapter 1 :Introduction to hydro climatology

Chapter 2: The watershed-- :

-Featuresphysical

Morphometric characteristics

Flowability

Chapter 3: Data quality:

data correction

Data homogenization

Hydrometry

:Measureslimnimetric

Measureslimnigraphic

Measurements by pinwheel

measurements by chemical dilution

Chapter 5: Frequency analysis of hydro-rainfall variables

Contents:Adjustment of samples to probability laws

Calculation of probable flow rates

Recurring debits

THEadequacy

Confidence intervals

Chapter 6: Extreme hydro-rainfall values

PJmax

QJmax

Floods and low water levels

Flood hydrograph

Evaluation method:Continuous monitoring and review

## **fundamental unit**

**Course title: Bioclimatology**

**credits:4**

**Coefficients:3**

Contents

Continuation of matter

Introduction

I -General climatology

-The mechanisms of general atmospheric circulation- Study and analysis of climatic parameters

- Climatic extremes

II -Climate classification

- Based on temperature
- Based on temperature and rainfall
- Aridity (the different characterization indices.)

IV -Bioclimatic synthesis

- Aridity and anthropogenic degradation.
- Vegetation climate relationship
- Biological classification of climates
- Climatic and bioclimatic mapping

V -Ecological factors

- Classification of ecological factors
- Development and evolution of ecosystems

Work to be done

- Gausson's ombrothermal digraph
- The classification of climates according to the Emberger quotient - Characterization of climatic drought by the different indices. - Calculation of potential evapotranspiration

- Calculation of the water balance.
- Calculation of altimetric graduations
- Development of rain and temperature maps
- Development of ETP maps
- Method of analysis and interpretation of these maps
- Creation of a bioclimatic summary map



**fundamental unit**

**Course title: Cities and regions**

**credits: 4**

**Coefficients: 2**

Contents:

- .3 Urban systems “The notion of Territory, urban system”
- .4 The components of the urban system
- .5 Genesis and formation of the city
- .6 elements of urban construction
- .7 The urban network
- .8 types of habitat
- .9 elements for the classification of urban constructions
- .10 The formation of the city
- .11 the city and its rural hinterland
- .12 the region: concept and definitions
- .13 The region structure and spatial dimension
- .14 Metropolization of space
- .15 regional transfer conditions
- .16 Spatial distribution and urban hierarchy
- .17 Territorial attractiveness and competitiveness
- .18 Zones of influence and urban regions

Evaluation method: Continuous monitoring and review

## **fundamental unit**

**Course title: Demographic analysis**

**credits 4**

**Coefficients 2**

Continuation of matter

Introduction : Definition of demography.

-5.1 Sources of demographic data

The census, vital statistics, surveys (national - regional - worldwide.)

-5.2 Natural movement of the population.

:1-2 Type of population growth in the world (Malthusian news)

:The different rates: birth rate, mortality, infant mortality, fertility. The average offspring and finale.

:Theory of demographic transition

:The abbreviated mortality table

:The wedding table. (Average age of first marriage)

:The reproduction table.

Evolution of time and age (The LEXIS diagram.)

- Generations and cohorts.

:8-2 Multiplications or SPRAGUE coefficient

-5.3 Migration:

:definitions – types – rates – indices.

:migration currents.

:International migration: Evolution and aspect. History, the new (illegitimate) migration trend  
4-4: Internal migration - rural exodus.

Evaluation method: Continuous monitoring and review

**mythological unit**

**Course title: Remote sensing**

**credits: 5**

**Coefficients: 2**

Contents:

I. Photo-interpretation

-1 Introduction to photo-interpretation

-1.1 Preliminary definitions

-1.2 Stereoscopic use

-2 Photo-interpretation

-2.1 The keys to interpretation

-2.2 Photo identification at 1/20,000

-2.3 The photo interpretation of the relief at 1/20,000 2.4- The photo interpretation of land use at 1/20,000 2.5- Photo interpretation in rural areas

-2.6 The photo analyzes a concrete space

-2.7 Field reconnaissance, surveys and updating of data

II. Remote sensing

.1 Introduction

Definition of remote sensing

Place of remote sensing in research

Practical goals of remote sensing

Scale of application of remote sensing

.2 Physical basis in remote sensing

Electromagnetic radiation (EMR)

Production of REM

REM-matter interaction

Radiometry elements

Directions

Radiation sources

### .3 Vectors and Sensors

The product of remote sensing

Earth observation satellites

Geostationary

Scrolls

Sensorsassets

Sensorspassive

### .4 Data processing

Compositions colorful

Correction geometric

.5 Synthesis of the material using the comparison between satellite image, photographyaerial and field surveys.

Evaluation method:Continuous monitoring and review.

## **mythological unit**

**Course title: Introduction to Geographic Information Systems**

**credits:4**

Contents:

Introduction : Interest in GIS?

-1History and basic functions of GIS

- How was GIS born?
- Main partners and core features
- Aspects to consider before choosing the tool 2- Nature of data (Raster and Vector(
  - Raster type data (geographic projections, principle of georeference(
    - Vector data
    - To topology

-3 Structuring data and their integration into GIS

- Modeling and implementing data in a GIS
- Vectorization (creation of vector objects and entry of identifiers and attributes(
  - Structured vector databases
  - Census data

-4 Use of data in a GIS

- The notion of request
- The different operators (arithmetic, geographic(
  - Data aggregation
  - The functions (measurement, character strings, date type fields, etc(.
- 3D view and digital terrain model (DEM(
  -

Evaluation method:Continuous monitoring and review.

## **Discovery unit**

**Course title: Analysis Of Cartographic Documents**

**Credits:2**

**Coefficients:2**

Contents:

Introduction: Fundamentals of Cartography

- Definition of cartography and its importance.
- The basic elements of a map: scale, legend, title, etc.
- Types of maps (thematic, topographical, etc.).
- Cartographic projection.

Chapter 1: Reading General Information on the Card

- Interpretation of scale and coordinate system.
- Understanding of the symbols and colors used on the map.
- Reading information relating to the legend.

Chapter 2: Analysis of Topographic Elements

- Identification of reliefs and altitudes from contour curves.
- Recognition of the main physical elements (rivers, mountains, etc.).
- Understanding of sea currents on nautical charts.

Chapter 3: Analysis of Thematic Information

- Interpretation of thematic maps (population, climate, etc.).
- Use of nuances and diagrams to represent specific data.
- Reading choropleth maps.

Chapter 4: Digital Mapping and GIS

- Introduction to geographic information systems (GIS).
- Analysis of the advantages of digital cartography.
- Use of GIS software for spatial analysis.

## Chapter 5: Temporal Analysis of Maps

- Understanding of historical maps.
- Analysis of changes over time from cartographic time series.

## Chapter 6: Participatory Cartography and Neogeography

- Introduction to participatory mapping and tools such as OpenStreetMap.
- The importance of neogeography in the creation of collaborative maps.

## **Discovery unit**

**Course title: Economy**

**credits:1**

**Coefficients:1**

Contents:

General:

-Definitions:

Economy, micro-economics-macro economics

ActivityEconomic:

Economic agents:

Businesses Administrations Financial institutions Households Outside

Overview of the Algerian Economy The essential characteristics Economic geography

The structure of GDP The trade balance.

-inflation

-employment and unemployment

- Market (law of supply and demand(

-monopoly, Oligopoly

-concurrence

-4Territorial economy

- notion of geographic economy and territorial economy

-polarization of space, centralities, factors of attractiveness of economic centers,  
polarization of activities - development/underdevelopment of the territory

-development models (case of the Algerian economy(



**transverse unit**

**Course title: Language3Credits:1**

**Coefficients 1**

**LanguageEnglish**

Contents:

Introduction: Understanding basic geography concepts in English

Topics to Be Studied:

1. Population
2. Destruction and Conservation of the Rainforests
3. Biodiversity and Genetic Resources
4. Ozone Layer and the Greenhouse Effect
5. Air, Water, and Soil Pollution
6. Non-renewable Energy Resources
7. Urban Expansion
8. Industrial Pollution and Waste Disposal
9. Traffic
10. Poverty and Environmental Damage
11. Sustainable Development



**Semester:4**

**Fundamental unit**

**Course title: Algeria space and society**

**Credits:4**

**Coefficients:2**

Contents:

Introduction

-1The Algerian natural environment

Large natural units (plains, mountains, valleys, plateaus, etc.) The major climatic and bioclimatic units

The hydrographic network and water resources Specific spaces

The major environmental constraints (aridity, erosion, desertification) 2- Algerian society

Population characteristics and distribution Demographic characteristics and trends Urban society

Urbanization in Algeria (forms and evolution) Algerian cities (location and growth(

Rural societies

Ancient agrarian and rural societies Current agrarian societies

.3The economic construction of the country The post-independent planned economy

The economic crisis and the opening of the market Economic recovery and its impacts.

**Fundamental unit**

**Course title: Water and development**

**Credits:4**

**Coefficients:2**

Contents:

Introduction

.1 State of water resources in Algeria Conventional waters Unconventional waters

.2 Mobilization of water resources Infrastructure and works;

Pipeline and treatment; Major transfers.

Traditional means of mobilization

.3 Human consumption

Agricultural use Domestic use Industrial use

.4 International water law

.5 Prospects for mobilizing and protecting water resources Critical areas

Increasing tensions

Major environmental and health issues

Evaluation method:Continuous monitoring and review

**Fundamental unit**

**Course title: Physical environments**

**Credits:4**

**Coefficients:2**

Contents:

Introduction

- .1 Dynamic processes and geosystems
- .2 Physical characteristics of the soil
- .3 Flows (hydrodynamic concepts(
- .4 Erosive dynamics (quantification of erosion(
- .5 Analysis of mass movements
- .6 Active tectonics and seismotectonics
- .7 Socialization (anthropization) of geosystems

Evaluation method:Continuous monitoring and review

**Fundamental unit**

**Course title: Rural environments**

**credits:4**

**Coefficients:2**

Contents:

Introduction

.1 Rural space (Definitions and characteristics(

.2 The diversity of rural spaces The common factors The causes of diversity

The consequences of the diversity of rural spaces Typology.

.3 Demographic dynamics

.4 The rural habitat

Grouping and dispersal Village shapes

Rural houses

Infrastructure and equipment

.5 Rural development in Algeria

The place and weight of agriculture in rural areas The fabrics of rural space and their evolution

The development of mountain areas Pastoralism

Saharan agriculture

Evaluation method:Continuous monitoring and review

## **Fundamental unit**

**Course title: urban environments**

**credits:4**

**Coefficients:2**

Contents:

Introduction

1 -The city, a construction in space

2 -Limits and differentiations of urban space 3- Urban concentration Demographic concentration

Functional concentration (activities and equipment, etc.) Measurement and factors of urban concentration

.4 The urban fabric

The urban habitat The equipment Infrastructure

.5 Urban land and land uses

.6 The distribution of functions and its consequences Selective localization of activities in urban spaces Cities facing changes in productive systems

The economic specialization of cities

.7 Dynamics of evolution and recomposition of urbanized spaces. Urban sprawl

Peri-urbanization

Urban centralities and changes in city centers Urban reorganization and social issues



## **Methodological unit**

**Course title: Investigation techniques**

**credits:3**

**Coefficients:2**

Contents:

Introduction

The usefulness of the survey and definitions

.1 Types of survey (definitions(

Semi-directive surveys (interview) Direct surveys (the questionnaire(

.2 The stages of the investigation The interview

Determination of objectives Classification of respondents

Orientation of the debate and framing of key questions 2.1.4.Transcription of the interview and conclusion

The question sheet

Definition of the object of the investigation

2.2.2. The inventory of the material means of the investigation 2.2.3. The pre-survey and the hypotheses

.2.2.4Writing the draft questionnaire 2.2.5.Sampling, types and calculations

.2.2.6Testing and updating the questionnaire

.3 Computer processing of surveys Examination of questionnaires

Analysis of results and writing of the report Evaluation

method: Continuous monitoring and review

## **Methodological unit**

**Course title: Field internship**

**Credits:4**

**Coefficients:2**

Contents:

### Module 1: Field Preparation

- Contents:Site Selection and Planning:Contents: Choice of internship sites based on learning objectives.
- Contents:Security and Logistics:Contents: Practical aspects, including security, transport, and accommodation.
- Contents:Equipment and Tools:Contents: Preparation of the necessary tools for data collection in the field .

### Module 2: Field Data Collection Techniques

- Contents:Direct Observations:Contents: Methods of observing and describing terrain characteristics.
- Contents:Interviews and Questionnaires:Contents: Collection of data through direct interactions with local communities.
- Contents:Use of Technologies in the Field:Contents: Integration of GPS, smartphones, and other technological tools for data collection.

### Module 3: Analysis and Interpretation of Field Data

- Contents:Processing of Collected Data:Contents: Organize and prepare data for analysis.
- Contents:Contextual Interpretation:Contents: Understand the data in the geographic and environmental context.
- Contents:Use of GIS in the Field:Contents: Practical application of geographic information systems for spatial analysis.

### Module 4: Reports and Presentations

- Contents:Writing of Field Reports:Contents: Structuring of results and conclusions.
- Contents:Preparation of Oral Presentations:Contents: Effective communication of discoveries and lessons learned from the field.
- Sharing Experiences

Discussion of challenges encountered and lessons learned during the internship.

#### Module 5: Critical Thinking and Integration

- Personal Reflection

Reflective analysis on field experience.

- Integration of Academic Knowledge

Link field observations to concepts studied in class.

**Discovery unit**

**Course title: Sociology**

**Credits: 1**

**Coefficients:1**

Contents:

Introduction

- .1 Presentation of sociology
- .2 Basic concepts of sociology To social structures Social reports
- .3 In rural sociology

What is "Rural" (Delimitation of rural space(

The sociological characteristics of rural society (Duality of rural sociology / urban sociology) The social status of "Fellah" and sociological significance.

- .4 The city, sociological phenomenon
- .5 The city, social form

Social morphology

Production of space and cohesion of social groups Places of residence and social affiliations

- .6 The city, lifestyles
- .7 The city, a political organization

## **Discovery unit**

**Course title: ethics and professional conduct**

**credits:1**

**Coefficients:1**

Contents:

Introduction

.1 concept of corruption:

- Definition of corruption.
- Religion et corruption.

.2 types of correction:

- Financial corruption.
- Corruption administrative.
- Corruption morale.
- Political corruption.....etc.

.3 manifestations of administrative and financial corruption:

- Nepotism
- Favoritism Mediation
- Extortion and fraud.
- The looting of public money and illegal spending.
- The slowdown in the completion of transactions (completion of projects.....etc.(.
- Administrative, functional or organizational discrepancies between the employee and the manager.
- Violations issued by the civil servant while carrying out his duties during the year.
- Lack of respect for working hours, taking time to read newspapers, receiving visitors and refraining from carrying out work and lack of responsibility.

.4 the reasons for administrative and financial corruption: Causes of corruption from the point of view of theorists:

- According to the first category:
- Civilizational causes.
- For political reasons.
- According to the second category:
- Structural reasons.
- The causes of value judgments.
- Economic reasons.
- According to the third category:
- Biological and physiological reasons
- Social causes.
- Complex reasons.

General causes of corruption:

.5 The effects of administrative and financial corruption:

- The impact of administrative and financial corruption on social aspects
- The impact of financial and administrative corruption on economic development
- The impact of administrative and financial corruption on the political system and stability

.6 The fight against corruption by local and international bodies and organizations

- International Transparency Organization:
- United Nations Convention against Administrative Corruption.
- World Bank program to help developing countries in the fight against administrative corruption.
- International Monetary Fund.
- Algeria's efforts against corruption: anti-corruption law 06-01, the role of the judicial police in the fight against corruption, etc.(.

.7 Methods of treatment and ways to combat the phenomenon of corruption

The religious side, the educational side, the political side, economic side, the legislative side, legal side, administrative side, human side....

.8 Models of the experience of some countries in the fight against corruption:

-The Indian experience, the Singapore experience, the United States experience, the Hong Kong experience and the Malaysian experience and the Turkish experience

**Transversal unit**

**Course title: language**

**credits:1**

**Coefficients:1**



**Semester:5**

**Fundamental unit**

**Course title: Technique and practice of planning**

**credits: 5**

**Coefficients:3**

Contents:

Introduction

- .1 The layout and its objectives
- .2 The structuring elements of the development
- .3 Preliminary development studies Natural variables

Demographic variables Socio-economic variables

Land value and legal nature of land

- .4 Planning practices Projection in planning Regional planning

Development of natural and rural environments Urban planning

- .5 Man and planning: analysis of the relationships Planning and development

Actors and territorialities

- .6 Examples of layout

Evaluation method: Continuous monitoring and review

## **Fundamental unit**

**Course title: Land use planning policies**

**credits:4**

**Coefficients:2**

Contents:

Introduction

.1 Territorial planning and organization L'administration

Means of implementing planning policies Planning and financial means

Participatory action in planning

.2 Legislation relating to planning

Legislative system

Code laws (general nature, specific nature) Application texts

.3 Territorial planning instruments

The national land use planning plan (SNAT) The regional land use planning plan (SRAT)  
The wilaya development plan (PAW Sectoral development plans

.4 Local planning instruments

The master development and urban planning plan (PDAU) The land use plan (POS(

The territorial coherence scheme Tourist expansion areas

.5 Land management

.6 Means of urban planning control

.7 Comparative planning policies in various countries

Evaluation method:Continuous monitoring and review

**Fundamental unit**

**Course title: Network and territory**

**Credits:4**

**Coefficients:2**

Contents:

Introduction

.1 The territory

Definitions

Components of the territory and organization Hierarchies and articulations of geographical scales Relations and interrelations

.2 Elements of territorial system System: definition and properties Network: definition and properties

Territorial systems and networks: generalities Evolution of territorial systems and networks

.4 Large technical networks 4.1Energies TIC

Passenger and freight transport

.5 Relationship between network forms and functions The notion of reticularity 5.2The notion of nodality

.6 territory, systems and networks through some examples: local networks, intermediate networks, long networks.

## **Fundamental unit**

**Course title: Mobility and Transport**

**credits:4**

**Coefficients:2**

Contents:

Introduction

.1 Transport, networks and regional spaces 1.1Transport, communications and networks. Understand transport through the concept of network.

Transport infrastructure Connectivity and accessibility.

.2 Network formation

Networks and flows.

Evolution of networks

Importance of technical progress and consequences on networks.

.3 Role of transport in development processes and territorial construction Synergies between transport and development

Transport and the territorial integration process. Inputs et outputs.

.4 Processes linked to spatial interaction and the gravity model. Definitions and problems.

Emissivity and attractiveness.

Gravity modeling and transport geography. Specialization and complementarity through exchange. The notions of thresholds in areas of influence.

.5 The complex characteristics of transport demand and supply

.5 Mobility and transport in time and space The different forms of mobility

.6 The main characteristics of means of transport Topological and quality criteria

Examples of means of transport and their relationship to space

Evaluation method:Continuous monitoring and review

**Methodological unit**

**Course title: Workshop**

**Credits:4**

**Coefficients:2**

Contents:

- The workshop constitutes a first experience for the student to deal with a question relating to territorial planning.
  
- The terrain that will be the subject of study in this workshop must be prepared in the room.
  
- The workshop report will be refined during the post-workshop period and will be subject to a final evaluation.

Evaluation method:Continuous monitoring

Bibliographic references

The bibliographic references depend on the themes covered.

## **Methodological unit**

**Course title: Application of GIS**

**credits:4**

**Coefficients:2**

Contents:

Introduction

.1 Reminder on GIS

.2 Presentation of the subject being studied Goals to reach

Means to use Humans Materials Software

.3 Building the database

Data gathering Manual entry

Data import, export and format conversion

.4 Statistical processing and graphic representations

.5 Acquisition of plan funds and digitization Topographic (digital funds, rasters, DEM)  
Aerial photos

Satellite images Cadastral plans

Layer organization and calibration

.6 Processing by thematic layers

.7 Use of data in a GIS

.8 -The notion of request

.9 -The different operators (arithmetic, geographic(

.10 -Data aggregation

.11 -The functions (measurement, character strings, date type fields, etc(.

.12 3-D view and digital terrain model (DEM(

Evaluation method:Continuous monitoring and review

**Discovery unit**

**Course title: Equipment and services**

**Credits: 4**

**Coefficients:2**

Contents:

Introduction

.1 Types of equipment Basic equipment School equipment Sanitary equipment Socio-cultural facilities Structuring equipment Industrial equipment

.2 Equipment and organization of space

.3 Tertiary and higher tertiary functions Banking and insurance services ICT services

Tourism and mass tourism services

.4 Services and space organization



**Transversal unit**

**Course title: Foreign language**

**Credits:1**

**Coefficients:1**

**Semester:6**

**Fundamental unit**

**Course title: Governance and local development**

**Credits 4:**

**Coefficients:2**

Contents:

Introduction

- .1 Definition of territorial governance
- .2 Links between territory, local development and governance
- .3 The territory as a dynamic system
- .4 General principles of governance
- .5 Levels of territorial governance State

Local communities

Participation as a mode of action at the local level (private – public)

The individuals Groups of individuals Businesses

- .6 Territorial governance tools

Decentralization The state budget

Local finances (municipal budget) The partnership

Activities location strategies Development of local resources

Evaluation method:Continuous monitoring and review

## **Fundamental unit**

**Course title: Activities and organization of space**

**Credits:4**

**Coefficients:2**

Contents:

Introduction

I. Definitions and concepts

II. Agricultural activity

Types d'agriculture Traditional agriculture Agriculture modern Agriculture extensive  
Agriculture intensive Livestock

Fishing and aquaculture

Forestry

Algerian agriculture

III. Industrial activity

Definitions and classifications Genesis and mutations

Industrial revolution III.2.1. Globalization and industrial relocation Industry and  
geographic space

Location factors and theories Industry and the city

Industry and rural areas

Industry and regional integration

IV. Services

Importance et classification Typology of the tertiary sector

The phenomenon of the tertiaryization of cities Evaluation method: Continuous  
monitoring and review

## **Fundamental unit**

**Course title: risks is territorial vulnerability**

**credits:4**

**Coefficients:2**

Contents:

Introduction

- Notions: hazard, risk, vulnerability
- Perception of risk: man and society

.1 Natural hazards

Tectonic risks: earthquakes and tsunamis Hydrometeorological risks: floods and landslides Climate risks: drought and forest fires

Biological Risks

.2 Industrial and technological risks

Industrial risks and multifaceted pollution Risks of air pollution

Risks of water pollution Risks of urban fires Transport risks

.3 Addressing risk factors in regional planning Mobilization of human resources

Risk mitigation techniques

Control and management of crisis states

Risk management instruments and structures in Algeria

## **Fundamental unit**

**Course title: environment**

**credits:4**

**Coefficients:2**

Contents:

Introduction

-Notion of fragility of the natural environment

-Relationship between environmental protection and sustainable development

.1 The ecosystem and its components Biotic and abiotic elements

Interactions and dynamics of ecosystems

.1.3 Man and environmental degradation

.2 Geo-environmental analysis methods Mapping and GIS

The field survey

Laboratory measurements

.2.4 Impact studies

.3 Examples of environmental studies by type of ecosystem Coastline and coastal areas,

Mountainous and forest areas Wetlands and rivers

Steppe and Saharan zones

.4 Nature and types of environmental pollution Nature of pollution

Sources de pollution Types de pollution

Water pollution Air pollution

Soil and vegetation pollution

.5 Techniques for combating pollution in urban areas 5.1 Sanitation and design of WWTPs 5.2 Controlled landfills n Other techniques

Health and environment in Algerian cities

Evaluation method:Continuous monitoring and review

**Methodological unit**

**Course title: research methods**

**Credits:2**

**Coefficients:3**

Contents:

Introduction

- .1 Scientific research methods
- .2 Research methods in geography and their evolution
- .3 Formulating a topic and choosing the study area
- .4 The work plan Documentary research Formulating a problem

Determining hypotheses and objectives Data collection and its sources

Data processing

Writing and formatting the project

Oral presentation of the project

## **Methodological unit**

**Course title: Field internship**

**Credits: 10**

Contents:

- Choice of the theme and location of the field training
- Documentary research
- Surveys and land surveys
- Collection of data from administrative structures and organizations
- Field survey and population survey
- Data processing and mapping
- Writing of the report

Evaluation method:Continuous monitoring

Bibliographic references

- Practical internship guides
- Methodological works cited in references previously



## **Discovery unit**

**Course title: territories and globalization**

**credits:2**

**Coefficients:1**

Contents:

Introduction: concepts and definitions

- What is economic geography?
- What is globalization?

.1 The territory and its evolution

.1.1.1 States, borders and globalization 1.1.2. Global cities 1.1.3. Maritime facades  
1.1.4. Relationships between market and finance

.2 Economic geography and territory Economy and spatial heterogeneity Economic systems (history and evolution)

.3 1.3 Economic activities

.3.1.1.3.1 The location of agricultural production 3.1.2.1.3.2. Industrial relocation  
3.1.3.1.3.3. Localization of services and new trends

.4 Globalization of the economy The actors of globalization

Trans- and multinational firms, essential players 4.1.2. International organizations and institutions The major spaces of globalization

.5 The geo-economic organization of the world Flows and networks: a world on the move A polycentric world

A multi-device world