PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH

Compliance Framework

LMD

ACADEMIC LICENSE

2017 - 2018

Establishment	Faculty / Institute	Department
HBB Chlef University	Faculty of Civil Engineering and Architecture	Architecture

Domain	Sector	Specialty
Architecture, Urban Planning and Urban Professions AUMV	Management of Urban Technologies	Urban engineering

SUMMARY

I – Identity card of the license
(All fields are required)

CITY MANAGEMENT

1 - Location of the formation:

Faculty (or Institute): of Civil Engineering and Architecture
Department: Architecture

2- Formation partners *:

- Other university establishments:

Other partner establishments:

DUC--DEP—DL - APC Chlef

- International partners:

External partners

- Other partner establishments:
- Companies and other socio-economic partners:
- International partners:

- companies and other socio-economic partners:

Companies and other socio-economic partners:

CRSTRA — DLEP - DUC

- International partners:

* = Present the conventions in the formation appendix

3 – Context and objectives of the formation

A – Conditions of access

Assignments of New Baccalaureate Holders

B - Formation objectives *(skills targeted, educational knowledge acquired at the end of the formation - maximum 20 lines)*

In Algeria; the mismatch between the different socio-economic functions has resulted in a lack of harmony and rationality in the use of urban space, the excessive density of which has disorganized social life and caused practical management difficulties for the public authorities.

Furthermore, the construction of buildings outside the most basic rules of architecture and urban planning and the overall harmony of the different districts has created situations that are often irreversible in the perspective of a rational development of cities, which are characterized by the rapid transformations of urban societies, the continuous proliferation of human settlements, the uncontrolled consumption of land, the speed of population growth, the proliferation of illegal housing, the degradation of the living environment, environmental problems, etc.

The general objective of the new formation is to:

- Better adaptation of formation to the continual developments in urban techniques.
- Greater student accountability through personal research, prospecting, analysis, criticism and innovation, which cannot be the sole preserve of a workshop or lecture hall.
- A response to the evolving needs of the national and regional socio-economic context.
- A matching of the teaching of Management of Urban Technologies through two specialties, “City Management” and “City Management”.

C – Targeted job profiles and skills *(in terms of professional integration - maximum 20 lines):*

The City Management degree is open to students of a common core in the following areas:
- city management
- engineering sciences and material sciences
- environment
- town planning and development

The future executive in City Management, through his scientific and human knowledge, knows how to plan, design and carry out projects and then operate and maintain them in the following areas:

- Construction and civil engineering

Urban planning and development of public spaces,

- The buildings,

- The environment: water treatment, air quality, noise pollution, waste

Acquire an overview of the real estate and construction sector and professions
Computer literacy for construction
Be able to manage a construction process and develop a program, from the "feasibility studies" phase to the completion of work on site, including project team management and operations control

D- Regional and national employability potential of graduates

City managers trained in this profile position themselves as study managers and urban management experts, through two formation paths.

Professional path: Graduates will be able to exercise their skills as professionals, self-employed or employed, as technical and urban project managers, at the following levels:

a/ local authorities, authorities with strong spatial concerns and city management:

At these levels, we can cite:

- Firstly, the ministerial structures:

The Ministry of Urban Planning and Housing, the Ministry of the Environment and Regional Planning, the Ministry of the Interior and Local Authorities, the Ministry of Transport, and their administrative structures: regional, wilaya, daïra, commune (State urban planning agencies: land agency, real estate agency).

- Secondly, parapublic bodies with associative status, social housing developers, economic and technical development services, strategic planning services, territorial marketing and real estate development services, equipment services, inspections:

Environment, fishing, tourism, agriculture, health, chambers of commerce and industry.

-In a third place, in a private capacity, as an expert consultant to national and international organizations, etc.

The GTU Licence diploma,through its targeted and tailored formation, based on a real employment need, proposed by the Ministry of the Interior and Local Authorities for the management of urban and territorial techniques (executive decree No. 11 334 on September 20, 2011, of the civil service) for 1,541 municipalities in Algeria.

b/ Liberal businesses, project managers and project managers with strong spatial concerns: As approved by private urban planning consultancies, land-justice experts, real estate agents,

construction and property development contractors, transport and urban network companies, services of companies focused on the management and organization of cities (commercial logistics and spatial marketing).

c/Financial companies with territorial and urban concerns:

Banks, insurance, real estate sector.

E – Gateways to other specialties

The common core under GTU domain, in two semesters, acquired: possible mobility between different universities which offer the same formation.

Students who have obtained a license, depending on the access conditions, could register for a Master's degree and continue their studies with a view to obtaining a Master's degree in:

- Academic Master in City Management
- Academic Master's Degree in Urban Economics
- Academic Master's Degree in Ecological Management of the Urban Environment

Academic Master's Degree in Urban Planning and Urbanism -

Academic Master in City Management -

and later, possible registration for a doctorate.

F – Formation monitoring indicators

Formation area	Architecture, urban planning and urban professions
Mention / Course	Management of Urban Technologies
Specialty / option (specify the exact title)	*Academic degree in City Management*
The main pilot indicator project monitoring	

D: Overall summary of human resources mobilized for the specialty (L3):

Academic Rank	Internal Staff	External Staff	Total
Professors	1		
Senior Lecturers (Class A)	1		
Lecturers (Class B)	4		
Assistant Professor (A)	14		
Assistant Professor (B)	3		
Other (*)	1		
Total	**24**	**0**	**24**

(*) Technical and support staff

5 – Material resources specific to the specialty

A- Educational Laboratories and Equipment: Sheet of existing teaching equipment for the practical work of the planned formation (1 sheet per laboratory)

Laboratory title: CONSTRUCTION MATERIALS LABORATORY

Student capacity:30

No.	Equipment title	Number	observations
1	• Compression testing machine	3	
2	• Abrams cone (slump cone)	4	
3	• Vicat apparatus	10	
4	• Water bath	2	
5	• Densimeter	5	
6	• Flexural and compression testing machine	2	
7	• Splitting tensile test device	1	
8	• Cement calorimeter	2	
9	• Humidifier for curing chamber	1	
10	• Proctor needle	2	
11	• Axial extensometer for test specimens	2	
12	• Concrete sclerometer (rebound hammer)	2	
13	• Surface squaring tool	3	
14	• Los Angeles machine	1	
15	• Complete set for sand equivalent test	2	
16	• Drying oven	1	
17	• Sieves and screens	20	
18	• Scales	2	

II – Semester Teaching Plan for the Specialization

Semester 1

Teaching Unit	VHS	V.H weekly				Coeff	Credits	Assessment method	
	15 weeks	C	TD	TP	Workshop			Continuous	Examination
Fundamental EU						9	18		
UEF1(O/P)									
Subject 1: Introduction to urban planning 1	45h00	1h30	1h30			2	4	50%	50%
Subject2: Workshop 1: Introduction to technical drawing	90h00				6h00	4	8	100%	
Subject 3: Planning 1	67h30	1h30	3h00			3	6	50%	50%
EU methodology						5	9		
UEM1(O/P)									
Subject 1: Mathematics 1	45h00	1h30	1h30			2	4	50%	50%
Subject2 : Water chemistry	45h00	1h30		1h30		2	4	50%	50%
Subject3: Communication techniques	22h30	1h30				1	1		100%
EU discovery						2	2		
UED1(O/P)									
Subject 1: Urban legislation 1	45h00	1h30	1h30			2	2	50%	50%
EU Transversal						1	1		
UET1(O/P)									
Subject 1: Language 1: English/French	22h30	1h30				1	1		100%
Weekly total		10h30	7h30	1h30	6h00				
Total Semester 1	382h30					17	30		

Semester 2

Teaching Unit	VHS	V.H weekly				Coeff	Credits	Assessment method	
	15 weeks	C	TD	TP	Workshop			Continuous	Examination
Fundamental EU						9	18		
UEF1(O/P)									
Subject 1: Introduction to urban planning 2	45h00	1h30	1h30			2	4	50%	50%
Subject2: Workshop 2: Housing and construction files	90h00				6h00	4	8	100%	
Subject 3: Planning 2	67h30	1h30	3h00			3	6	50%	50%
EU methodology						5	9		
UEM1(O/P)									
Subject 1: Mathematics 2	45h	1h30	1h30			2	4	50%	50%
Subject 2: Building materials	45h	1h30		1h30		2	4	50%	50%
Subject 2: Computing	22h30			1h30		1	1	100%	
EU discovery						2	2		
UED1(O/P)									
Subject 1: Urban legislation 2	45h	1h30	1h30			2	2	50%	50%
EU Transversal						1	1		
UET1(O/P									
Subject 1: Language 2: English/French	22h30	1h30				1	1		100%
Weekly total		9h00	7h30	3h00	6h00				
Total Semester 2	382h30					17	30		

Sector] Management of Urban Technologies [
ميدان [السنة الثانية ليسانس معمارية ، عمران ومهن المدينة]
2nd year Degree: City Management - Semester 03[السداسي الثالث]

Course Unit	VHS	VH weekly				Coefficient	Credits	Assessment method	
	15 weeks	C	TD	TP	Workshop			Continuous	Exam
UEF1 (O/P): Fundamental CU						**09**	**18**		
Module 1: Workshop 03: urban analysis	**90 hours**				6h00	4	8	100%	
Module 2: Urban Project	**67h30**	1h30		3 hours		3	6	40%	60%
Module 3: Geography of Cities	**45h00**	1h30	1h30			2	4	40%	60%
UEM1 (O/P): CU Methodology						**05**	**09**		
Module 1: Urban economics	**10h30**	1h30				1	1		100%
Module 2:Roads and various networks VRD	**45 hours**	1h30	1h30			2	4	40%	60%
Module 3: Topography	**45 hours**	1h30		1h30		2	4	40%	60%
UED1 (O/P): Transversal CU						**2**	**2**		
Module 1: Cartography	**45 hours**	1h30	1h30			2	2	40%	60%
UET1 (O/P): Discovery CU						**1**	**1**		
Module 1: Urban Sociology	**10h30**	1h30				1	1		100%
Weekly Total		**10h30**	**4h30**	**4h30**	**6h**				
Total Semester 03 (15 weeks)	**382h30**	**3h30**	**67h30**	**67h30**	**90 hours**	**17**	**30**		

Sector (Management of Urban Technologies [
ميدان [السنة الثانية ليسانس معمارية ، عمران ومهن المدينة]
2nd year Degree: City Management - Semester 04[السداسي الرابع]

Course Unit	VHS	VH weekly				Coefficient	Credits	Assessment method	
	15 weeks	C	TD	TP	Workshop			Continuous	Exam
UEF1 (O/P): Fundamental CU						**09**	**18**		
Module 1: Workshop 04: Urban Interventions	**90 hours**				6 h	4	8	100%	
Module 2: Operational Urban Planning	**67h30**	1h30		3 hours		3	6	40%	60%
Module 3: Urban Hydraulics	**45 hours**	1h30	1h30			2	4	40%	60%
UEM1 (O/P): CU Methodology						**05**	**09**		
Module 1: Teledetection	**45 hours**	1h30		1h30		2	4	40%	60%
Module 2: Demography	**45 hours**	1h30	1h30			2	4	40%	60%
Module 3: Computer-Aided Design	**10h30**			1h30		1	1	100%	
UET1 (O/P): Transversal CU						**02**	**02**		
Module 1: Climatology	**45h00**	1h30	1h30			2	2	40%	60%
CUD 1(O/P): Discovery CU						**01**	**01**		
Module 1: Urban Ecology	**10h30**	1h30				1	1		100%
Weekly Total		**9 h**	**4h30**	**6h**	**6h**				
Total Semester 04 (15 weeks)	**382h30**	**135h**	**67h30**	**90 hours**	**90h00**	**17**	**30**		

Sector] Management of Urban Technologies [
ميدان [هندسة معمارية ، عمران ومهن المدينة]
3rd year Degree: City Management - Semester 05[السداسي الخامس]

Semester 05:

Course Unit	VHS	VH weekly				Coefficient	Credits	Assessment method	
	15 weeks	C	TD	TP	Workshop			Continuous	Exam
CUF1 (O/P): Fundamental CU						**09**	**18**		
Module 1: Workshop 05: Urban planning instruments in Algeria	**90 hours**				6h00	4	8	100%	
Module 2: City Management	**45 hours**	1h30	1h30			2	4	40%	60%
Module 3: Urban Traffic	**67h30**	1h30		3 hours		3	6	40%	60%
CUM1 (O/P): CU Methodology						**05**	**09**		
Module 1: Urban Risks	**45 hours**	1h30	1h30			2	4	40%	60%
Module 2: GIS	**45 hours**			3 hours		2	4		100%
Module 3: Research Methodology	**10h30**	1h30				1	1		100%
CUT1 (O/P): Transversal CU						**02**	**02**		
Module 1: Green Spaces	**45 hours**	1h30	1h30			2	2	40%	60%
CUD1 (O/P): Discovery CU						**01**	**01**		
Module 1: Field Visits or Exploratory Internship	10h30					1	1	100%	
Weekly Total		**7h30**	**4h30**	**6h**	**6h**				
Total Semester 05 (15 weeks)	**360h**	**112h30**	**67h30**	**90 hours**	**90**	**17**	**30**		

Sector] Management of Urban Technologies [
ميدان [هندسة معمارية ، عمران ومهن المدينة]
3rd year Bachelor's degree: City Management - Semester 6[السداسي السادس]

Semester 06:

Course Unit	VHS	VH weekly				Coefficient	Credits	Assessment method	
	15 weeks	C	TD	TP	Workshop			Continuous	Exam
CUF1 (O/P): Fundamental CU						**09**	**18**		
Module 1: Workshop 06: End of study thesis	**90 hours**				6h	9	18	100%	
CUM1 (O/P): CU Methodology						**04**	**09**		
Module 1: Management	**45 hours**	1h30	1h30			4	9	40%	60%
CUD1 (O/P): Transversal CU						**2**	**2**		
Module 1: Public Procurement	**45 hours**	1h30	1h30			2	2	40%	60%
CUT1 (O/P): Discovery CU						**1**	**1**		
Module 1: Ethics and Professional Conduct	**10h30**	1h30				1	1		100%
Weekly total	**1h30**	**4h30**	**3h00**		**6h**				
Total Semester 06 (15 weeks)	**8h30**	**67h30**	**45h00**		**90 hours**	**16**	**30**		

Overall formation summary:(indicate the separate global VH in progress, TD, TP… for the 04 semesters of teaching, for the different types of CU)

(Calculations are carried out for 4 semesters – from S3 to S6 -)

CU VH	**CUF**	**EMU**	**CUD**	**CUT**	**Total**
Course	135h	180h	67h30	90 hours	472h30
TD	67h30	90 hours	00h	90 hours	247h30
TP	135h	112h30	-	-	247h30
Workshop	360h	-	-	-	360h
Personal Work	852h30	467h30	12h30	3h	1347h30
Other (specify)	-	-	-	-	-
Total	1550h	850h	80 hours	195h	**2675h**
Credits	72	36	7	5	**120**
% in credits For each CU	60%	30%	5.83%	4.17%	100%
			10%		

III. Detailed program by Module of the semesters

(1 detailed sheet per Module / all fields must be completed)

Semester 3	
Course unit	CU. Fundamental
Module	Workshop 03: Urban analysis
Coefficient	4
Credit	8

Teaching objectives

This teaching is part of a methodological aim: it is about providing students with some tools of urban analysis, seen from a spatial angle, necessary for understanding an intervention context (the site of implantation, the plan of the city, the layout of the roads, etc.), in order to identify and understand its urban and architectural characteristics and discover its underlying models and structures (dimensions, functions, distributions, constructive and aesthetic systems), the impact diagnosis, urban programming and finally the adoption of an urban project.

Recommended prior knowledge

Concepts of building design, the components of urban space: built spaces (any three-dimensional object), unbuilt spaces (developed or not) and network spaces (linear surfaces, underground, or aerial).

Content of the Module:

This involves using typo-morphological analysis as a "tool" for describing and classifying, reading and explaining the observed urban space, in order to:
- identify its urban and architectural characteristics and discover its underlying patterns and structures
- understand its urban forms and grasp their genesis, by highlighting the notion of interdependence and reciprocal relationship of all these components: built spaces (any three-dimensional object), unbuilt spaces (developed or not) and network spaces (linear surface, underground, aerial).
- The elements to be considered at the level of the study perimeter are:
- Relative location, land use or space consumption (relationships between surface area, density, etc.).
Layout: the relative position of the various spaces between them.
Organization, structure and configuration: understanding the principles and methods that guided the creation of the model in question.
The state of the built environment and construction methods.....
The case study: the example studied consists of an urban perimeter delimited by specific conditions (neighborhood, housing estate, residential area, etc.).
Typical works to consider:
Habitat/housing: collective, subdivision and individual housing
-Equipment: Equipment space: public or (private investment):
A group of urban facilities:
1. Urban center.
2. Commercial, administrative or sports activity zone.
3. A set of educational activities.

- Relaxation: Green space: Green space, A space for relaxation and leisure, public garden…..
- Leisure: Children's play area, A relaxation and leisure area.
- Networks: road and parking lot.
In each of the five exercises, the student must finalize his project with a final presentation including the following documents:

- an analysis report (written and graphical);
- the basic diagrams, which must include the elements of synthesis, reflection and orientations;
- detailed structural diagrams;
- development plan detailing land use;

The workshop work will be reinforced by a field trip to facilitate the choice of sites and the choice of corresponding projects.

Assessment method: 100% in continuous review.

Bibliographic references: To be determined by the teaching team

Semester 3	
Course unit	CU. Fundamental
Module	Urban project
Coefficient	3
Credit	6

Teaching objectives

The program for this Module consists of giving students some basic notions on urban projects (concepts, principles, dimensions, approaches, procedures, impacts on the city, relations with city policy and stakeholders in the urban project).

Recommended prior knowledge:
General notions about the city, the components and composition of the city, its structure and the different possibilities of development of the city.

Content of the material:
The lessons are divided into the following points:

1: Reminders about the City
2: Conditions of emergence and characteristics of the urban project
3: The urban project
1: General information on the urban project:
a) Definition of concepts
b) Background on the urban project
c) The different types of urban projects
d) The impact of the urban project
- at the local level
- at the regional level
- at the national level

e) The urban project: rather than a response, a questioning
f) The causes of the urban project

2:he emergence of urban projects:
a) Merchant cities at the advent of industrial civilization
b) The findings
c) Remedies
d) The ideal city
3: the genesis of the urban project
a) Urban project and urban policy
b) Identification of the urban project as a reference approach
c) Initial outline of an intermediate function: the urban project
d) Execution of the urban project
e) Approval of the minutes
4: conceptual devices of the urban project
a) Projective relevance of concepts
b) The two territorial scales of conceptualization
c) Scales and cutouts
d) Urban space in transformation and project

e) Remaining open questions – the achievements of the urban project
f) Morphology of the constructed space: spatial organizations and visible forms.
5: operational scope of urban project
a) Light project for broad questioning
b) Project – definition of urban heritage
c) Project on a neighborhood
d) Project to reorganize part of the city
e) Faced with the diversity of urban projects
6: study of urban project cases
A) Urban projects in Europe.
b) Urban projects in the USA
c) Urban projects in Scandinavian countries
d) Urban projects in the Netherlands
e) Urban projects in North Africa.
f) Ideal cities
7: the actors of the urban project
a) Legal actors
b) Administrative actors
c) Technical actors
8: methods of financing the urban project
(a) National funding
(b) Sectoral financing
c) Cases of financing from the budget of the wiles
(d) The promotion of financing through investments
d) Financing actors
1-private.
2- Public.
(e) Feasibility of financing mechanisms

Assessment method: 40% continuous and 60% exam.

Bibliographic references: To be determined by the teaching team

Semester 3	
Course unit	CU. Fundamental
Module	Geography of cities
Coefficient	2
Credit	4

Teaching objectives

This module provides an understanding of the different types of cities and their urban structures while highlighting how relationships are established in an urban system.

Recommended prior knowledge

General notions about the city, the components and composition of the city, its structure and the different possibilities of development of the city.

Content of the Module:

1- General introduction
- History of the City
- Definition of the city
- The evolution of the urban aspect
- Differentiation between city and country

2- The cities of the middle Ages and their characteristics
- Islamic cities and their characteristics

3- Urban planning and the development of medieval towns
- Urban planning and the development of industrial cities

4- Structure of the city
- Checkerboard plan (chessboard), radioconcentric, linear, prestige and Plan without a plan

5- Characteristics of cities: (type of city)
- Mining town; industrial; commercial (wholesale); commercial (retail); transport; cultural and educational; tourism and leisure; multi-function; historical and religious.

6- Relationship of cities (between them)
- Jefferson's Theory
- Ziff Theory
- Crystal Theory
- Calculation of influence radii

7- Methods of limiting and locating the city center (CBD)

8-Urban Network in Algeria
- Urban function
- Structuring and organization of the urban network
- Development components
- Urban network and economic development

Assessment method: 40% continuous and 60% exam.
Bibliographic references: to be determined by the teaching team

Semester 3	
Course unit	CU. Methodology
Module	Urban economy
Coefficient	1
Credit	1

Teaching objectives

Urban economics is a branch of spatial economics that has gradually become specialized in favor of its object of study (the city) and the models used. Its main objective is to understand the sprawl of urban space.

Recommended prior knowledge

The student must have acquired a good knowledge of the geography of cities and notions of political economy and urban transport.

Content of the Module:

1- General information

1-1 Introduction to Economics
1-2 Definition and role of the urban economy

2 – Object of the urban economy.

2.1. Metropolitanization.
2.2. What is the urban world?
2. 3. City and economy.
2.4. Economic activities and urban dynamics.
2.4.1. Urban planning and urban functions.
2.4.2. The city's economy.
2.4.3. Urban public services.

3- Economic theories of the urban phenomenon

1. The concept of area of influence.
2. Agglomeration forces.
3. The network economy.

4- Industrial location theory.

1-Theory of the distribution of economic activity.
2-Agglomeration economies,
Porter's a-model
b- Krugman center-periphery model.

5- Measures of spatial concentration and regional diversification.

1- Urban hierarchies and central place theory.
2-The spatial structure of the urban economy
3-economic foundation of the city center,
4-ground rent theory,
5-location of manufacturing and service firms and

6-residential location.
7- Price study (revision and updating)

6-Location theories,

1-creation of cities and urban spatial structure.
2- Urban problems.
3 - Water saving.

Assessment method: 100% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 3	
Course unit	CU. Transversal
Module	Roads and various networks
Coefficient	2
Credit	4

Teaching objectives

Consideration of roads as an infrastructure (technical networks), requiring the implementation of geometric design and calculations.

This Module will allow students to:

Know the main characteristics of road and urban road equipment.

-Stages of existing projects.

-Evolution of methods.

-Evolution of the organization.

-Evolution of planning principles

Recommended prior knowledge

- Main characteristics of urban road equipment;

-Urban analysis (land use or space consumption, organization, structure and configuration of urban textures, etc.);

- The interaction between urban planning and urban traffic;

-The impact of socio-economic and cultural factors in determining certain spatial forms and structures.

Content of the Module:

CHAPTER 1: ROADS

1- General information: classification and method of financing urban roads

- Traffic
- The extent and nature of the area served
- The typology.

2- Classification of routes

3- Elements of urban traffic studies

- Traffic Analysis
- Probable Evolution of Various Modes of Transport
- Predictable Traffic in Urban Areas

4-Earthworks and Calculation of Cubatures

- Soil Classification
- Calculation of cubic volumes
- Execution of Earthworks.

5- Geometric Characteristics of Non-Rapid Urban Roads

- Land Demarcation
- Field Survey and Measuring Instruments
- Identification of existing networks

• Altimetric and Planimetric Connections

6-The Route Layout

• Track Profiles (longitudinal profiles, cross-sectional profiles)

•Recommendations for the plan layout

• Roads (Composition of Roads, Calculation of the Road, Road Accessories).

•Sidewalks and pedestrian walkways

•crossroads

• parking

• Special works

CHAPTER 2: GENERAL EARTHWORKS

1 - Definition

2 - Technical constraints

3 - Economic constraints

4-Land expansion

5 - Land settlement

6 - Slopes and embankments

7-Calculation of cubic capacities

8-Interpretation of results

CHAPTER 3: PUBLIC LIGHTING

1- General - Exterior lighting - Ambient lighting lamps

2- Calculation methods – calculation hypothesis

3- Calculation of sections

4- Exterior lighting

5- Interior Lighting

6- Power balance

7- Grounding

8- Electrical equipment

CHAPTER 4: GAS NETWORK

- Design and implementation techniques

CHAPTER 5: TELEPHONE NETWORK

- Design and implementation techniques

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team

Semester 3	
Course unit	**CU. Methodology**
Module	**Topography**
Coefficient	**2**
Credit	**4**

Teaching objectives

It consists of providing the student with the basic notions of topography and teaching him how to make topographic measurements, intended for the development of topographic plans in the execution of works in the field of the different bodies of the city.

Recommended prior knowledge
Math, physics, technical drawing, cartography.

Content of the Module:

I. INTRODUCTION

1. GENERAL NOTIONS
2. Geodesy
3. Topography
4. Shape of the Earth
5. Projection system
6. Geographic coordinates
7. Orientation (The three Norths)

II. Topography

III. Notion on Faults and Errors.

1. Faults
2. Errors
3. Statistical Observations on Direct Measurements

IV. Distance measurement

1. Distance measuring instruments
2. The staking
3. Flat measurement
4. Measurement accuracy
5. Direct measurements
6. Indirect length measurement

V. MEASURING ANGLES

1. Units of measurement of angles
2. The theodolite
3. Measurement of horizontal angles
4. Measuring vertical angles

Assessment method: 40% continuous and 60% in exam.
Bibliographic references: To be determined by the teaching team

Semester 3	
Course unit	**CU. Transversal**
Module	**Mapping**
Coefficient	**2**
Credit	**2**

Teaching objectives

First of all, it is about teaching students to draw the “details that are found on the surface of the globe and which deserve to appear on the map or on the plan drawn up…” (p. Merlin)
- Acquire theoretical and technical knowledge on cartography;
- Become familiar with graphic expression, to conceive of it as a language which has its laws, its structures and its aesthetics.

Recommended prior knowledge

Drawing techniques, scales, legends, layout, paper size etc., geographic projections, and concepts of geometry.

Content of the Module:

1- General introduction: basic concepts.
2- History of mapping
3- General mapping.
4- Introduction to cartographic representation: the use of cartographic instruments, the basics of cartographic expression, summary maps, etc.);
5- Introduction to graphics: the goal, the levels of information, the forms of graphic intervention, graphic processing of information, graphic constructions, etc.).
6- Presentation of the evolution of a map, classification of maps, etc.
7- Cartographic theory and design.
8- Color, editing of cards,
9- Layout and Typography
10- Graphic semiology.
11- Graphical processing of data.

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team

Semester 3	
Course unit	**CU. Discovery**
Module	**Urban sociology**
Coefficient	**1**
Credit	**1**

Teaching objectives

The main objective of the course is to understand how socio-cultural data combine and interfere with the spatial framework to define the environment of daily life, but will also attempt to highlight the impact of social and cultural factors in determining certain spatial forms and structures.

Recommended prior knowledge

- Basic concepts of sociology.
- The main trends in urban sociology and the sociological approach to the city.
-Methods of investigation and identification of needs and mastery of methodological tools essential for workshop work.

Content of the Module:

1. The concept of urban sociology
   - The field of urban sociology
   - Relationship of sociology with urban sociology
2. Urbanization and the urban, phenomenon and process
   - Trend of world regions towards urbanization
   - indexed urban standards
   - Urbanization process, its manifestation and conditions urbanization rate and its forms
3. The physical, socio-economic and cultural urban space
   - Use of space
4. Urban space and the urban environment
   - Realization of the idea of urbanization
   - The urban population
   - The city's residents
   - The composition and classes of the population
   - Poor citizens and social movements
5. Participation of the village and the city in developing the image of urbanization and its models
6. Urbanization and quality of life
   - Socio-anthropological analysis
7. Correlation between space and quality of life
   - Slums in cities
8. Critique of urban values
9. Immigration and employment and adaptation of immigrants in the city.

Assessment method: 100% in review.
Bibliographic references: To be determined by the teaching team.

Semester 4	
Course unit	CU. Fundamental
Module	Workshop 04: Urban intervention
Coefficient	4
Credit	8

Teaching objectives

The process of urban growth, overcrowding in old neighborhoods, the continued proliferation of human settlements, uncontrolled urbanization, in many cases, aging, the effect of disasters and natural risks, have created dilapidated cities.

In this context, operational urban planning represents an essential field of application for urban improvement in urbanized areas.

Recommended prior knowledge

-Know some urban concepts: e.g.: subdivision, housing group, equipment, urban project.

-Understand the foundations of operations, urban forms and their genesis

-know the urban and architectural characteristics of an urban entity; understand the interdependencies of the components of different urban spaces.

Content of the Module:

The workshop work, Operational Urban Planning, will be translated into classic urban interventions on the existing urban fabric, through a set of proposed exercises, or after a review by the PDAU, distributed as follows, as a model: (exploitation of sloping land preferably)

Exercise 1

Restructuring of an urban center:

Exercise 2

Urban renewal

Exercise 3

Rehabilitation of a neighborhood

Exercise 4

Redevelopment of a project in a new urban context.

Exercise 5

Requalification and improvement of the living environment of a residential area of collective and individual housing.

In each of the exercises the following steps must be followed:

1. Urban analysis of the state of affairs and the existing urban situation;
2. Urban programming.
3. Diagrams of the principle.
4. Structural diagrams.
5. Redevelopment plan.

Several issues related to city management will also be addressed in these projects:

1- Urban analysis and survey techniques.
2- Funding.
3- Project Specifications and Legal Framework.

Assessment method: 100% continuous.

Bibliographic references: To be determined by the teaching team.

Semester 4	
Course unit	CU. Fundamental
Module	Operational urban planning
3	3
Credit	6

Teaching objectives

Today's city is largely a legacy of urban planning operations, socio-spatial practices and physical transformations, due to demographic, climatic, social, technological and economic phenomena.
In this context, the student must benefit from a broad knowledge of analysis, ideas for innovation and intervention for the updating of the existing built environment; concluding them in several dimensions:
- The analytical reader in a broad dimension of architectural compositions and urban fabrics.
- Better understand the poly-functionality of architectural form and style (housing, unbuilt space, equipment, etc.)
- Operational knowledge of the background of the interaction of the stakeholders (urban product)
- Learning on a more specific scale of techniques and methods of analysis - simulation of problems in architectural and urban space.
- Preparation of urbanization action in the field of high-level planning (the presence of major urbanization strategies, technical-administrative directives, and practical mastery of urbanization parameters on a larger scale).

Recommended prior knowledge

Concept of urban planning, technical drawing, urban legislation, cartography, topography and demography.

Content of the Module:

The problem of operational urban planning requires a broad knowledge of all the accumulative phenomena of existing buildings, such as: the degradation of the physical framework, socio-spatial practices, technical transport problems, environment, etc.
This Module aims at the theoretical understanding of the tools of operational urban planning, and deepens the courses of the Operational Urban Planning workshop, the content of these courses is as follows:

1. History of operational urban planning: (Haussmannian Paris works, etc.)
2. Renovation.
3. Restructuring.
4. Redevelopment: requalification, renewal, residentialization. Improvement of the living environment.
5. Rehabilitation, Restoration, development.
6. requalification
7. the reconversion

As for the tutorials, let us remember that this teaching is part of a methodological goal:

The aim is to provide students with some tools for urban analysis, seen from a spatial perspective, necessary for understanding an intervention context (the site of implantation, the city plan, the layout of the roads, etc.), in order to identify and understand its urban and architectural characteristics and discover its underlying models and structures (dimensions, functions, distributions, construction and aesthetic systems).

1. typo-morphological analysis as a "tool" for description and classification, reading and explanation of the observed urban space, in order to:

2. identify its urban and architectural characteristics and discover its underlying patterns and structures

3. understand its urban forms and grasp their genesis, by highlighting the notion of interdependence and reciprocal relationship of all these components: built spaces (any three-dimensional object), unbuilt spaces (developed or not) and network spaces (linear surface, underground, aerial).

4. The elements to be considered at the level of the study perimeter are:

- relative location, land use or space consumption (relationships between surface area, density, etc.).

-The location: the relative position of the various spaces between them, it is therefore a question of urban composition.

Organization, structure and configuration: understanding the principles and methods that guided the creation of the model in question.

- the state of the built environment and construction methods.....
- the case study: the example studied consists of an urban perimeter delimited by specific conditions (neighborhood, subdivision, residential area, etc.).

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 4	
Course unit	CU. Fundamental
Module	Urban hydraulics
Coefficient	2
Credit	4

Teaching objectives

Urban hydraulics essentially deals with the problem of designing Potable water distribution networks and wastewater and rainwater drainage in urban areas.

This Module advocates an overview of urban hydraulics based on the importance of water in human activities and the environment. In particular, it allows for the sizing of the main elements of water supply and sanitation systems in urban areas.

Recommended prior knowledge

Climatology, chemistry, mathematics, physics, topography.

Content of the Module:

1-Introduction:

Sources and nature of water; natural and artificial water cycles, underground water and surface water. Water supply: needs, forecasts and standards.

2-Potable water supply

Supply systems and their elements (water intakes, supply lines, reservoirs and water distribution networks) as well as their equipment and calculation methods.

3-Sanitation

Waste water disposal: discharge volumes; sanitary and storm sewers; equipment and calculation methods.

Types of networks, design and sizing of some urban sanitation works

Urban sanitation network diagnostic methodology

4-Hydraulic works

Dams and reservoirs

What they are made of and how all their ancillary structures work. Dimensioning a reservoir, a surge stack, a treatment plant, and a sewage treatment plant.

5-Pumps and pumping stations

Centrifugal pumps and axial pumps and various couplings. Pumping stations for drinking water and wastewater.

6-Water treatment

Evaluate the effect of different substances contained in water and recommend appropriate treatment techniques.

7-Wastewater treatment

urban wastewater treatment processes and the disposal of sludge resulting from these operations.

Assessment method:40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 4	
Course unit	CU. Methodology
Module	Teledetection
Coefficient	2
Credit	4

Teaching objectives

The objective of this Module is to provide the student with the necessary foundations to produce cartographic documents according to a set of rules;
- to acquire the skills to synthesize and present work in several forms (map, photo, statistical processing, analysis, choice of graphic means, cartographic design and layout, etc.).

Recommended prior knowledge

Mapping, spatial analysis, CAD.

Content of the Module:

Reading cartographic documents and introduction to CAD

1- Definitions and information to be extracted: relief, contour line, cities and human settlements, hydrographic networks, projection system, etc.

2- Aerial photography;

3- Remote sensing satellite image;

4- Introduction to the automatic card.

Assessment method:40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team

Semester 4	
Course unit	CU. Methodology
Module	Demography
Coefficient	2
Credit	4

Teaching objectives
This Module allows you to acquire the methods and tools of analysis in demography, particularly those relating to the structure of the population, its movements and its projections over time.

Recommended prior knowledge

The student must have acquired a good knowledge of the structure of the population.

Content of the Module:

1. Introduction to demographic analysis.
   - The use of numbers and criticism of sources
   - The concept of population movement
2. Variations in a population
   - The different rates: birth rate, mortality rate, fertility rate
   - Concept of life expectancy
3. Migratory movements

- Introduction and definition of concepts: permanent, alternating, temporary migration...
- Notions of mobility in relation to an area: total migration, migratory balance
- Net migration measurement: natural movement, tracking probability, birthplace
- Indices of efficiency, redistribution and concentration of a population.
- Spatial interactions: migratory intensity, preference index
- models applied to the study of migrations.

4. Composition and structure of the population.
   - Composition by sex, sex ratio
   - Composition by age
   - Urban population and rural population
   - The socio-professional composition of the population and the main sectors of activity.
5. Demographic perspectives.
   - By gender and age
   - Prospective mortality or follow-up indices by age
   - Calculation of the number of survivors without or before migration
   - Birth prospects according to the mother's age
   - Perspectives by age and gender in space.

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team

Semester 4	
Course unit	**CU. Methodology**
Module	**Computer-aided design CAD**
Coefficient	**1**
Credit	**1**

Teaching objectives

The main objective of this course is to teach students how to master the basic tools and commands required to create professional 2D drawings, by learning the essential functions of drawing software.

Recommended prior knowledge

- Develop a foundation in digital literacy
- Master tools that facilitate the production of graphical project components
- Provide opportunities for various manipulations in 2D and 3D, allowing quick verifications for conceptual choices.

Content of the Module:

1. visualization:

- "zoom" commands for viewing the drawing.
- "pan" command.

2. working with layers:

- Description and benefits of layers
- Creating and managing layers
- Managing object properties

3. Annotations and Detailing:

- Hatching and gradients
- Dimensioning
- Text insertion
- Tables
- External references

4. Drawing Information:

- Object information using the "list" command
- Measuring distance between two points
- Calculating area.

5. the blocks:

- What is a block?
- creation of a block.
- inserting a block.

6. printing and layout:

- Page layout and printing using the wizard

Assessment method:100% continuous.
Bibliographic references: To be determined by the teaching team

Semester 4	
Course unit	**CU. Transversal**
Module	**Climatology**
Coefficient	**2**
Credit	**2**

Teaching objectives

The Module of climatology proposes the study of the states of the atmosphere as determining components in urban developments.
Aspects of the urban environment: temperature, rainfall regime, variations in space and time in climatic hazards form one of the average elements in the management of cities.

Recommended prior knowledge

The student must have basic knowledge of physics, meteorology, climatic geography and knowledge of statistics

Content of the Module:

1- Concept of heat exchange and general distribution of temperatures
- Rhythm of the seasons
- General distribution of surface temperatures
- Energy balances and radiation balances

2- Atmospheric water
- The saturated structure of water vapor
- The eating structures
- Mechanism of precipitation

3- water balances in the atmosphere
- Evaporation and evapotranspiration in heat balances
- Precipitable water

4- classification of precipitation
- Orographic rain
- Cyclonic rain
- Convection rain

5- Means of assessing precipitation
- Rainfall measurement and operation network
- Use of climate data in urban projects

Assessment method:40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team

Semester 4	
Course unit	CU. Discovery
Module	Urban ecology
Coefficient	1
Credit	1

Teaching objectives

- To provide students with basic knowledge on urban environment themes and their application in urban studies.
- To raise student awareness of urban environmental issues.

Recommended prior knowledge

Development, Chemistry and VRD

Content of the Module:

The lessons in this Module are structured around the following themes:
1- general introduction on the environment, urban ecology, pollution, risks, urban biodiversity, renewable energies, sustainable development, etc.
2- the city and its challenges.
3 - the components of the urban landscape.
4- the urban environment: its components, its aspects, its environmental issues;
5- the impacts:
6- pollution and urban nuisances: appearance, nature and source, major risks;
7- sustainable urban development:
- its objectives, key indicators, principles, actors and techniques, etc.;
- tools of ecological and environmental engineering;
- the ecological approach in urban planning and design.
8- the environmental quality of neighborhoods and buildings:
-high environmental quality (HQE);
-environmental performance (indicators, actions, aggregation);
- environmental maintenance and rehabilitation;
- the eco-district: components and principles of development.
9- waste management:
1- solid urban waste
2- classification of solid waste.
3- types and quantities of solid waste
4- collection and transportation of solid waste
5- controlled discharge

- general information on controlled landfill
- basics of planning and site selection
- fixed installations of controlled landfills
- water collection and disposal
- landfill gas collection
- exploitation
- management and control

- practical application: establishment, development and operation of a landfill
  * administrative aspects
  * technical aspects
  *operational aspects
- valuation of the site at the end of exploitation
- redevelopment of landfills finally operational

5- treatment of urban solid waste
6-regulatory framework for waste
1. definition of waste
2. texts relating to waste
2.1 Applicable regulations
2.1.1 Framework texts on waste
2.1.2 Specific regulations
2.2 Obligations relating to waste production
2.2.1 Obligation to ensure proper disposal
2.2.2 Information obligation
2.3 Obligations arising from transfers
2.4 Obligation to dispose of waste
2.4.1 landfill
2.4.2 Incineration
3. the tax treatment of waste

b- management of urban liquid waste
1- general information on wastewater
- wastewater
- origins of wastewater
- wastewater composition
- quantities of wastewater
- impact of wastewater on the environment

2-wastewater treatment
- determination of degree of treatment
- choice of site for a treatment plant
- choice of treatment methods
- treatment processes

3-reuse of wastewater
- wastewater value
- condition of reuse of wastewater
- areas of wastewater reuse

Assessment method:100% in review.
Bibliographic references: To be determined by the teaching team

Semester 5	
Course unit	CU. Fundamental
Module	Workshop 05: Urban planning instruments in Algeria
Coefficient	4
Credit	8

Teaching objectives

Mastery of urban planning instruments: PDAU and POS

Recommended prior knowledge

- the principles of graphic representation and cartography.
- computer tools (spreadsheets and drawing, etc.);
- notions on spatial practices, the urban environment, etc.
- the principles of graphic representation and cartography.
- computer tools (spreadsheets and drawing, etc.);
- notions on spatial practices, the urban environment, etc.
- notions of regulations and legislation.

Content of the Module:

This workshop is structured as follows:
1- Analysis.
2- Quantification and programming.
3- Development.
4- Regulations.
5- Intervention

Assessment method: 100% continuous.

Bibliographic references: To be determined by the teaching team.

Semester 5	
Course unit	CU. Fundamental
Module	City management
Coefficient	2
Credit	4

Teaching objectives

Students of urban management must absolutely understand the city, its structure, its facilities and its urban services.

Recommended prior knowledge

The student must have acquired a good knowledge of planning and management methods for public services.

Content of the Module:

- Historical.
- Territorial management.
- Administrative management.
- Housing management.
- Equipment management.
- Urban audit.

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 5	
Course unit	CU. Fundamental
Module	Urban traffic
Coefficient	3
Credit	6

Teaching objectives

The objective of this course is to acquire knowledge of the concepts and issues of mobility as well as mastery of the interactions between transport systems and territorial development.

Recommended prior knowledge
Urban analysis, topography, mathematics, urban ecology.

Content of the Module:

1- General information on urban transport
1- Definitions
2- Importance of transport in urban life
3- Transport and urban societies (historical considerations)

2-Urban transport in the city
1. Getting around the city
2. Reasons for travel
3. Classification of traffic currents
    - local traffic (within a neighborhood);
    - heavy traffic (professional circuit);
    - economic circulation;
    - tourist (leisure) traffic;
    - mass circulation (popular and sporting events).

3- Circulation Methods
4- Types of urban transport
- Transport of people
- Transport of products and goods
- Transport of information
- Study of examples.

5-Studies relating to urban transport
Geographical studies;
Geographic distribution of travel;
Street layouts and urban forms;
Land use and urban transport;
Planning studies;
Determination of overall travel demand in the city;
The choice of means of transport;
Types of decision in urban transport;
Technical Studies: transport and traffic engineering;

6-Problematic analysis of urban transport

a. The economic and financial aspect

- the cost in space (space consumption)
  - urban traffic equipment
  - roads

- the investment cost
  - study and construction of urban road equipment and works
  - road and vehicle maintenance
  - the various administrations
- pricing:
  - parking
  - public transport
  - car traffic.
- Case study

b. The legislative and decision-making aspect

- transport and urban policy
- regulations;
- transport management;
- taxation

c. The environmental aspect
   - road safety
   - the impact of motor vehicles on the environment

7-Study (proposal) of a travel project

This is a transport and circulation plan, which includes the following steps:

- Study of the mobility of city dwellers and the geographical distribution of their movements (origin and destination)
- Determining the reasons for travel
- Studies on the choice of means of transport
- Choosing a future network
- Network management
- Economic (profitability) and environmental analysis of the proposed new networks.

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 05	
Course unit	**CU. Methodology**
Module	**Research methodology**
Coefficient	**1**
Credit	**1**

Teaching objectives

Research methods and processes leading to the formulation of problems, assuming hypotheses, structuring and writing a final year dissertation.

Recommended prior knowledge

Have a good analytical and synthetic mind.

Content of the Module:

The student is expected to prepare a project within the research team. This project sets out the theme of the dissertation, the problem, the documentary survey, the theoretical framework and the research methodology. The project formulated by the student concerns the relevance of the choice of the subject based on a question relating to fundamental aspects of the urban project in terms of forms, scales and actors.
During the fourth semester, support meetings took place periodically between students and teachers for the completion of the research paper, after the acquisition of the following courses:

1- Scientific Approaches

- Qualitative.
- quantitative.
- Typical methods:
  - experimental methods.
  - survey methods.
  - historical methods.

2- Research techniques and means

- Sampling.
- scientific observation.
- the questionnaire.
- the interview.
- experimentation.
- the comparison.
- Examples (concrete cases).

3 - Written communications (administrative writing)

- the forms that written communications take:

- Meeting minutes
- Official report
- Memorandum
- Letter
- Note
- Printed form/document

- Application exercises for each form.

4 - Dissertation and internship report

-The choice of a research theme

- The problem;
- Working hypotheses
- data collection and use of different techniques;
- analysis and interpretation (data preparation, formatting and transfer).
- the final writing and formatting of the dissertation.

-the characteristics of the writing of the thesis (or report):

- the development of a plan;
- the choice of style
- objectivity;
- simplicity;
- clarity;
- precision.

Assessment method: 100% in review.

Bibliographic references: To be determined by the teaching team

Semester 05	
Course unit	**CU. Methodology**
Module	**Geographic Information System (GIS)**
Coefficient	**2**
Credit	**4**

Teaching objectives

The objective of this Module is to provide the student with basic concepts enabling him to translate his cartographic data using software specific to the field of cartography.

Recommended prior knowledge

The student must have a good foundation in IT.

Content of the Module:

Recommended software MapInfo or Arcgis:

I. Basics of MapInfo or Arcgis
- a. the notion of Table.
- b. The concept of databases.
- c. Geographic databases.
- d. MapInfo or Arcgis interface
- e. The toolbars.
- f. The windows are anchored.
- g. Floating windows.

II. Layer Managers
- a. Organize the diaper stack.
- b. Organize the characteristics of the layers.

III. Create / Edit graphic data
- a. Delete an object.
- b. Create an object.
- c. The drawing layer.
- d. Change the geometry of the drawing.

IV. Use of symbols
- a. Surface symbols
- b. Point symbols
- c. Linear symbols

V. Layout

VI. Example of spatial analysis.

Assessment method: 100% in review.
Bibliographic references: To be determined by the teaching team.

Semester 05	
Course unit	**CU. Methodology**
Module	**Urban risks**
Coefficient	**2**
Credit	**4**

Teaching objectives

React to natural phenomena and risks that may affect its urban environment as well as measures to prevent and manage these risks.

Recommended prior knowledge

Geomorphology, climatology, remote sensing, geology, engineering structures, soil mechanics

Content of the Module:

Introduction.
General methodology for risk analysis.

- Natural risks linked to atmospheric phenomena.
- Natural risks and atmospheric phenomena
- Natural risks and climate variability
- Natural risks related to land degradation.

Desertification

- Erosion
- Natural risks linked to atmospheric phenomena
- Natural risks and atmospheric phenomena
- Natural risks and climate variability
- Hydrological risks

Floods

- Muddy flows and overexploitation of aquifers
- Geodynamic risks
- Seismic risks

Volcanism

- Landslides or movements
- Landslides
- Avalanches

Karst risks

- Natural risks in coastal environments
- Coastal erosion
- Protection of port facilities

Air/sea interactions

- Salt water intrusion
- Impact of climate change
- Mangroves
- Tsunami

Risks of urban traffic

- Safety impact of urban traffic
- Prevention and management measures
- Urbanization in risk areas
- Seismic zones
- Flood zones
- Wind-exposed areas

Use of data in decision-making and political choices

- Reduction of risks of occurrence and/or effects (prevention/mitigation)
- Taking into account the perceptions of the communities concerned, information, awareness, education
- Early warning (form of information, transmission medium and ability to respond)

Emergency plan and crisis management

- Post-crisis situation management and evaluation.

Major risks: analysis, prevention, management
Decision support: multi-criteria analysis methods
Workshop: case analyses and role-playing

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 05	
Course unit	**CU. Transversal**
Module	**Green spaces**
Coefficient	**2**
Credit	**2**

Teaching objectives

-Benefit from knowledge about green spaces and their impact on the environment, particularly urban;
-Understand the different parameters necessary for the development, design and creation of green spaces;
-Analyze and diagnose the state of green spaces in urban environments;
-Define the needs of urban populations in terms of green spaces.

Recommended prior knowledge

Mapping, topography, technical drawing

Content of the Module:

The courses in this Module are structured around the following points:

1) General introduction

- history of green spaces
- role of green spaces

2) Types of green spaces

- classification by site
- classification according to use and user

3) Design of green spaces

- factors influencing the design of green spaces
-design modes
  - regular design
  - natural design
  - the common design
  - contemporary design
- elements of design and organization of green spaces
-the basics of design and planning of green spaces
-color organization
-principles of landscape design

4) Standards and measures for planting in urban areas

- determination of use
- knowledge of the environmental environment

5) The stages of planting in cities

6) The nurseries

- definition of nursery
- the objective of the nurseries
- the different types of nurseries
- the general conditions for planting nurseries
- the executive stages of planting nurseries
- basic nursery equipment
- favorable environments and mixtures for the multiplication and growth of plants in nurseries
- agricultural operations carried out in nurseries
- plant propagation methods used in nurseries
- nursery planting constraints

7) Management and maintenance of green spaces

- management
- the interview

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 05	
Course unit	**CU. Discovery**
Module	**Field Visits or Exploratory Internship**
Coefficient	**1**
Credit	**1**

Teaching objectives

The GTU sector is a specialty that is understood and practiced in the field. This is why the city (Biskra, Sétif, Batna, or Constantine, etc.) represents a case study of exemplary specificity in terms of urban projects, both in terms of urban planning and architecture. Therefore, fieldwork is in line with the objectives of the Workshop 5 Modules and operational urban planning and city management. The student has the opportunity to see and analyze the functioning and management of a city through all components of the urban system in a real space.

Recommended prior knowledge

Urban planning and city management.

Content of the Module:

Check the condition of the premises:
Topography.
Road structure.
Networks
Servitude.
Urban fabric: composition and typo morphology
Peri-urbanization.
Descriptive neighborhood analysis: Buildings, green spaces, children's play areas and the environment.
Choice of projects according to the proposed POS.
Selection of sites, according to PDAU guidelines.

Assessment method: 100% continuous with preparation of a report.

Bibliographic references: To be determined by the teaching team.

Semester 06	
Course unit	**CU. Fundamental**
Module	**Workshop 06: End of studies Thesis**
Coefficient	**9**
Credit	**18**

Teaching objectives

The presentation of a final project will allow the student to highlight the theoretical and practical knowledge acquired during their Bachelor's degree formation, but also to have a spirit of analysis, synthesis and group work and to communicate with partners.

Recommended prior knowledge

- Knowledge of urban techniques and urban projects;
- Mastery of urban analysis and the principles of urban projection;

Content of the Module:

Preparation of an End of Studies Project:

Establishing an urban project:

a- either the development of a development project, design and calculation (including VRD), in the case of a vacant lot. The example of development of a subdivision, or a POS, etc.

b- or, the study of a concrete urban problem, in the case of a developed or built site. The example of a regulatory and operational urban planning operation (urban improvement, rehabilitation, restructuring, etc.) by emphasizing the study in this case on urban networks and techniques.

Assessment method: 100% continuous with assessment of a final year dissertation.

Bibliographic references: To be determined by the teaching team.

Semester 06	
Course unit	**CU. Methodology**
Module	**Management**
Coefficient	**4**
Credit	**9**

Teaching objectives

- Introduction to project management.

Recommended prior knowledge

Urban economy, city management, urban legislation, governance.

Content of the Module:

1. Roles and diversity of companies
- 1.1 Diversity of the nature of the construction company
- 1.2 Diversity of roles in the construction company
- 1.3 Specific elements. Production units
- 1.4 General contractor and subcontractors
- 1.5 Multi-purpose integrated company
- 1.6 Size of the company. SMEs. Agencies. Subsidiaries
- 1.7 Companies with an international vocation

2. Services and organization of the company
- 2.1 Operational Services
- 2.2 Functional Services

3. Business management
- 3.1 Human Resources
- 3.2 Business research
- 3.3 Contract management
- 3.4 Operating forecasts
- 3.5 Accounting
- 3.6 Financial Service
- 3.7 Legal assistance
- 3.8 Computer tool

4. Company management
- 4.1 Selection and management of managers
- 4.2 Motivation. Profit-sharing
- 4.3 Delegation Rules
- 4.4 Technical Direction
- 4.5 Management control
- 4.6 Investments
- 4.7 Business strategies and projects
- 4.8 Communication

5. Case of agencies

- 5.1 Types of agencies
- 5.2 Degrees of independence and responsibility
- 5.3 Organization and management
- 5.4 Advantages and disadvantages of agencies
- 5.5 The agency in road company

6. Public services

- 6.1 History of urban public services
- 6.2 Management modes
- 6.3 Local management
- 6.4 Public service guide diagrams
- 6.5 Green space management plan: analysis, critique, perspectives
- 6.6 Public transport management plan: analysis, critique, perspectives
- 6.7 Waste management plan: analysis, critique, perspectives
- 6.8 VRD management plan: analysis, critique, perspectives
- 6.9 The organization of local public services into networks
- 6.10 e-governance

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 06	
Course unit	**CU. Transversal**
Module	**Public markets**
Coefficient	**2**
Credit	**2**

Teaching objectives

The main objective is to make students understand the concepts and content of public procurement according to Algerian legislation.

Recommended prior knowledge

Urban economics, urban legislation, urban planning.

Content of the Module:

1-THE PARTNERS:
- The project owner
- The project manager
- The entrepreneur
- Other stakeholders (subcontractors)

2-OBJECT AND PRICE OF THE CONTRACTS:
- Market categories
- Unit price schedules

3- SELECTION PROCEDURES:
- Advertising rules
- Selection modes

4-SPECIFIC FORMS OF MARKETING:

5-CONTRACTUAL DOCUMENTS:
- The constituent parts
- Subsequent documents (amendments, etc.)
- The order of service

6- GUARANTEES:
- The deposit
- The retention money
- The terms of restitution or release

7- PAYMENT METHODS:
- Determination of quantities
- The monthly statement. Payments in advance and installments
- The final count and the general count

8-MODIFICATIONS IN PROGRESS:

- Price update
- Variation in mass
- Change in the importance of the various types of works

9-DEADLINE AND RECEIPT:

- Deadline, penalties and bonuses
- Acceptance of works
- Warranty period

10-TERMINATION:

- The different cases of termination.

Assessment method: 40% continuous and 60% in exam.

Bibliographic references: To be determined by the teaching team.

Semester 06	
Course unit	**CU. Discovery**
Module	**Ethics and professional conduct**
Coefficient	**1**
Credit	**1**

Teaching objectives

Help the student to become familiar with all the principles and rules ethics who manage and guide all activities and determine the homework required by professionals in the performance of their duties. This involves informing and raising awareness among students of the risk of corruption and encouraging them to contribute to the fight against it.

Recommended prior knowledge

Urban legislation and regulations

Content of the Module:

A- Ethics

1- Definitions
2- Rules
3- Professional conduct
4- Examples of code of ethics
5- Protection of personal data and new information and communication technologies
6- Professions with regard to ethics and societal issues

B- Corruption

1- Definitions
2- Types of corruption
3- Manifestations of administrative and financial corruption
4- the reasons for administrative and financial corruption
5- The effects of administrative and financial corruption 6- The fight against corruption by local and international bodies and organizations

7- Methods of treatment and means of combating the phenomenon of corruption
8- Models of the experience of certain countries in the fight against corruption

Assessment method: 100% in review.

Bibliographic references: To be determined by the teaching team.