PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

MINISTRY OF HIGHER EDUCATION
AND SCIENTIFIC RESEARCH

Compliance framework

TRAINING OFFER
LMD

ACADEMIC LICENSE

2017 - 2018

Establishment	Faculty / Institute	Department
Mohamed KHIDER University - Biskra	Science and Technology	Architecture

Domain	Sector	Speciality
(Area 14 AUMV) ARCHITECTURE, TOWN PLANNING AND CITY PROFESSIONS	ARCHITECTURE	ARCHITECTURE

الجمهورية الجزائرية الديمقراطية الشعبية

وزارة التعليم العالي والبحث العلمي

نموذج مطابقة

عرض تكوين
ل .م .د

ليسانس أكاديمية

2018-2017

المؤسسة	الكلية/ المعهد	القسم
جامعة محمد خيضر – بسكرة	العلوم و التكنولوجيا	الهندسة المعمارية

الميدان	الفرع	التخصص
(D: 14 AUMV) هندسة معمارية, عمران و مهن المدينة	هندسة معمارية	هندسة معمارية

SUMMARY

I. License identity sheet

1. Training location:

Faculty (or Institute): Science and technology

Department : Architecture

References of the authorization orderof the license (attach copy of the order):
Order No. 506, of September 4, 2011: Academic Year 2011/2012, (see appendix)

2. External partners:

- Other partner establishments:

- Businesses and other socio-economic partners:

Council of the Order of Architects - Biskra

- International partners:

3. Context and objectives of the training

The reform of higher education consists, on an educational level, of establishing an organization of teaching which aims to enable the student:

- To acquire working methods that develop critical thinking and the skills of analysis, synthesis and adaptability.

- To benefit from efficient and appropriate guidance reconciling their wishes with their abilities for better preparation either for working life by optimizing their chances of professional integration, or for the pursuit of university studies.

- Better adaptation of architectural training to continual developments in techniques and technologies.

- A response to the evolving needs of the national and regional socio-economic context.

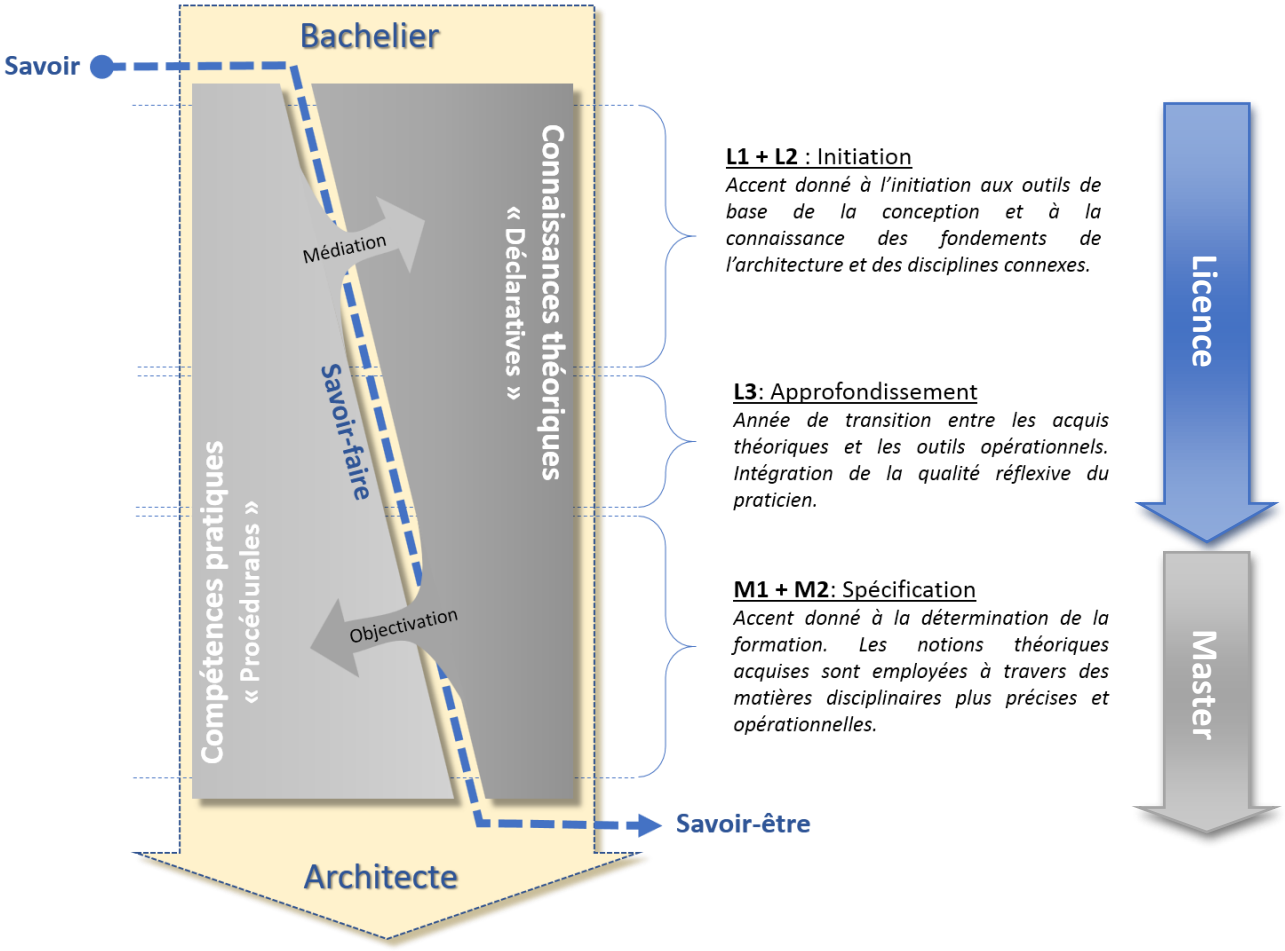
- An adequacy of architectural education in Algeria to universal standards so as to allow more exchanges and mobility.

In fact, it will be a question of “validating” the qualities and skills capable of allowing this future executive to exercise his profession in a responsible and professional manner.

Thus, the training profile prescribed by the national educational committee in the field of “Architecture, Urban Planning and City Professions” tends to prioritize practical qualifications while remaining open and “reflexive”. In fact, if the primary mission of this architect corresponds to the dispositions and abilities to respond appropriately to public orders in his field, he only remains, as a “thinking head”, he is also a producer of knowledge. Thus, the scope of practice of the practitioner can also be increased by predispositions to engage in the field of research.

From this perspective, the license is the level where the student acquires the necessary foundation for the profession. The third year of this training (L3) is a year of validation of the acquisitions and assimilation of theoretical and practical knowledge allowing access to the final level of university training (cycle 2).

This first part of the architect's training through the license constitutes an INITIATION TO ARCHITECTURAL PRACTICE THROUGH DISCOVERY AND DESIGN (MASTERY OF BASIC TOOLS).



The diagram above summarizes the philosophy adopted for the training of architects through the course: License + Master.

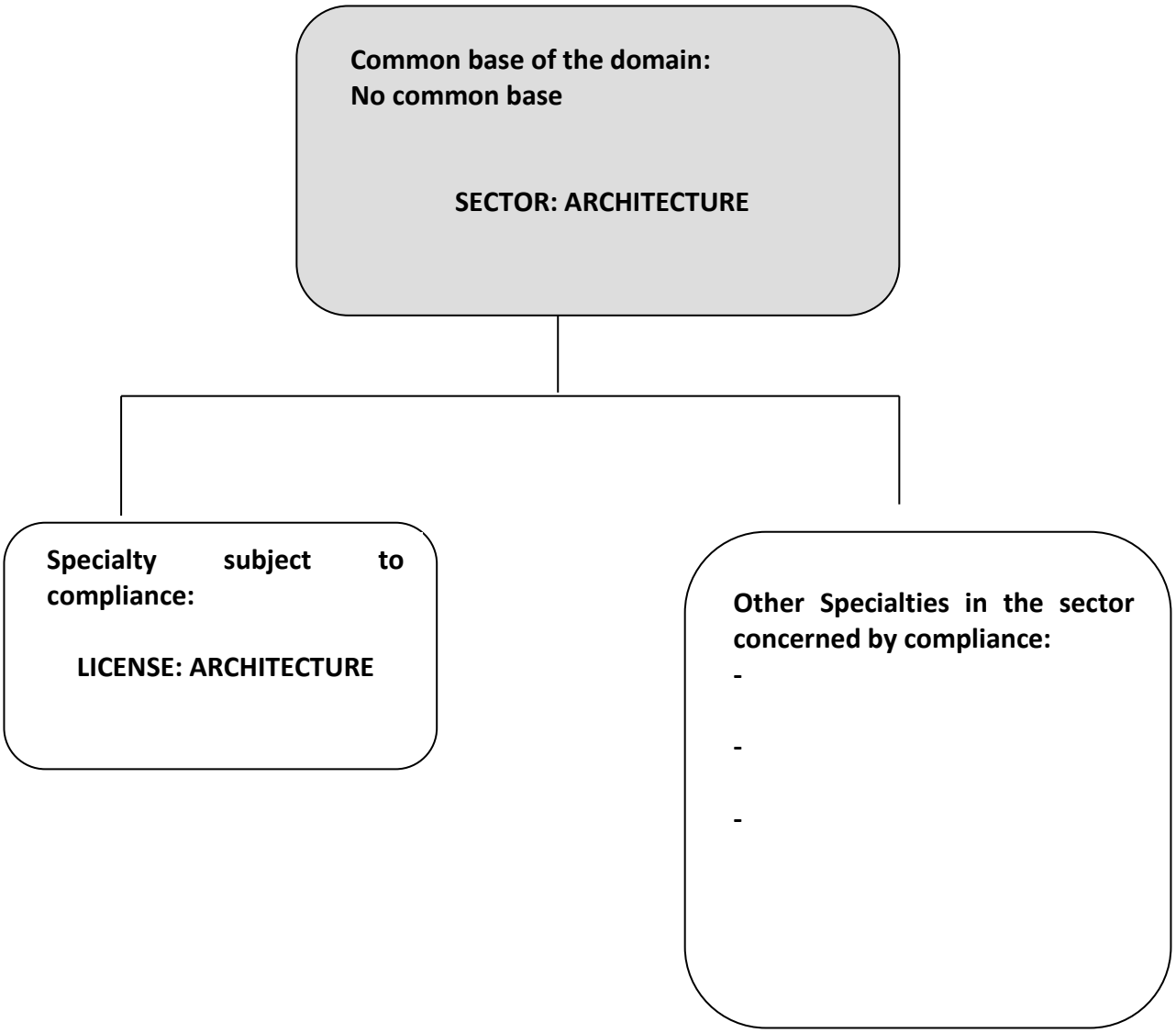
The newly arrived baccalaureate will first have to acquire concrete knowledge through declarative knowledge which will push them to explore new notional fields. A contribution of procedural knowledge will push him to move - through active pedagogy - to conceptualization while using theoretical knowledge.
Practical subjects offer mediation tools for the process of ideation, conceptualization and then projection.

As progress progresses, the trends balance out until, in the third year, they constitute a weighting between procedural and declarative knowledge. This is the place for project-based learning. The student's reflective quality is there. It is manifested by the notion of complex "know-how" which is based on the effective mobilization and combination of a variety of internal and external resources identified by learning situations through the project.

The Master will subsequently constitute a process of specification of architectural practice moving towards the acquisition of a synthetic posture: between knowledge, know-how and know-how.

A. General organization of training: project position

(Mandatory field / If several licenses are offered or already supported at the establishment level / same training team or other training teams / indicate in the following diagram, the position of this project in relation to other courses)



B. Training aims

(Mandatory field / Targeted skills, knowledge acquired at the end of the training - maximum 20 lines)

The academic degree in Architecture is designed as a step towards more complete training in the Architecture sector based on a training base in architecture for obtaining the Academic or Professional Master's degree, and allowing the student to acquire the necessary and sufficient knowledge to become an architect and practice the profession of architect according to the rule of art.

The knowledge acquired will allow students to be autonomous and capable of analysis and synthesis to choose the training profiles which will be offered to them according to their abilities, their baggage, their vocations but also the prospects offered by the employment market. employment to integrate them.

C. Profiles and targeted skills

(Mandatory field/maximum 20 lines):

The knowledge acquired at the end of this training which extends over a period of three years “academic license” constitutes only one step in the training process of the “future architect”. They will allow them to benefit from a theoretical base consisting of the fundamental knowledge necessary for access to the Masters in Architecture which will constitute additional specialized training in various profiles offered within the framework of the Masters in Architecture.
The resulting master's degree offers would allow the construction of professional careers that are more scalable and capable of adapting to the needs and requirements of the market and the international, national and regional context.
Also, the subjects taught in this planned "academic license" training are the basis of specialized training in Architecture but which opens up prospects for horizontal bridges to other para-architectural training and which goes in the direction of LMD training.

D. Regional and national employability potential

(Required Field)

The planned training is not professional but opens the way to other professional training and in particular masters in architecture: at the end of this training in two levels: license + master and enriched by the personal work of the student as well that the confrontation of the real world of work through the internships planned in the two training courses, the student will be a future motivated and evolving executive, responsible and ready for initiatives…. On the local and national market.
In relation to the training itself, this offer of an academic license in architecture is an opportunity to enrich the content of the teaching programs already started as part of the reform and reorganization of architectural teaching in the system. LMD
This teaching is designed to integrate and adapt it to regional and national training profiles in terms of housing, town planning of monuments and historic sites, etc.
Thus, graduates seeking employment will have benefited from training adapted to the needs of the local and national market. The training at the end of this offer also aims at a certain goal, that ofthe qualitative improvement of the built environment in Algeria, protection against major risks, its compliance with local identity uses.

E. Gateways to other specialties

(Required Field)

The cycle of studies in architecture will take place according to the following scheme:

Main route:
Access to training (Bachelor of Architecture: bac+3) is reserved for students oriented by the supervisory Ministry (see the orientation circular issued at each academic year by the Ministry of Higher Education and Scientific Research).
The academic license gives access to the master's degree (without selection or with selection based on qualifications depending on available abilities); at the level of the master's cycle: orientation towards professional master's degree (the majority of students) or academic master's degree (according to specific criteria);

Possible outgoing routes:
After the third year, academic license level,

- Orientation towards the professional or academic Master's degree in Architecture.
- Orientation towards related fields on equivalence and with completion of missing credits.

Possible inbound routes:
Entry into the “Academic License in Architecture” training cycle is reserved for students oriented by the supervisory Ministry (see the orientation circular issued at each academic year by the Ministry of Higher Education and Scientific Research) .

F. Performance indicators expected from training

(Mandatory field / Viability criteria, success rate, employability, graduate monitoring, skills achieved, etc.)

The opportunities for this training could be perceptible at the master's level, because the bachelor's training is intended to be academic but it is the only path to access the Master's degree which could be professional or academic and which allows the student to exercise the profession of architect.

4. Human resources available

A. Supervision capacity: 160 students per year.

(Expressed in number of students that can be supported)

B. Internal teaching team mobilized for the specialty:

(To be completed and endorsed by the faculty or institute)

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Belakehal Azeddine	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Professeur	Théorie de projet	
Farhi Abdallah	Architecte d'Etat	Doctorat d'Etat	Professeur	Théorie de projet	
Zemouri Noureddine	Architecte d'Etat	Doctorat d'Etat	Professeur	Modélisation et simulation (BIM)	
Bada Yacine	Architecte d'Etat	Doctorat d'Etat	Maître de Conférences 'A'	Théorie de projet	
Benabbas Moussadek	Architecte d'Etat	Doctorat d'Etat	Maître de Conférences 'A'	Atelier de projet	
Bouzaher Soumia	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Introduction à l'urbanisme/Outils et inst d'am et d'urb	
Djelloul Amel	Ingénieur en Génie climatique	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Equipement du bâti	
Slatenia Khaled	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Planification et aménagement spatial	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Sriti leila	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Atelier de projet	
Boukhabla Moufida	Architecte d'Etat	Doctorat en Sciences	Maître de Conférences 'B'	Atelier de projet	
Aboudil Rachida	Architecte d'Etat	Magister	Maître Assistant 'A'	Histoire critique de l'architecture	
Alouane Fayçal	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Aoura Ali	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Beddiaf Walid	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Benaissa Nadjette	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Benferhat Mohamed Ladaoui	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Bouhlas Lakhdar	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Boumerzoug Abdelouahab	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Daich safa	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Dakhia Azzedine	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Dali Aomar	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Djebnoune Rachid	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Djenane Moussadek	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Femmam Nadia	Architecte d'Etat	Magister	Maître Assistant 'A'	Planification et aménagement spatial	
Ghanemi Faten	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Gouaref Habib Alrahmane	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Gouizi Yamina	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Hafsi Mustapha	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Hamel Khalissa	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Karkar Houria	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Laouni Ines	Architecte d'Etat	Magister	Maître Assistant 'A'	Dessin et art graphique	
Lebal Noureddine	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Madhoui Meriem	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Magri Ouadjeri Sahar	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Mahaya Chafik	Architecte d'Etat	Magister	Maître Assistant 'A'	Conception assisté par ordinateur	
Makhloufi Soumia	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Medouki mostefa	Architecte d'Etat	Magister	Maître Assistant 'A'	Planification et aménagement spatial	
Meliouh Fouzia	Architecte d'Etat	Magister	Maître Assistant 'A'	Terminologie	
Merad Yacine	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Merzougui Wafia	Architecte d'Etat	Magister	Maître Assistant 'A'	Dessin et art graphique	
Mezerdi Toufik	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Mkihal Khadidja	Architecte d'Etat	Magister	Maître Assistant 'A'	Dessin et art graphique	
Mokrane youssef	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Msellem Houda	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Nasri Manel	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Qaoud Rami	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Rezig Adel	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Rezig Djemoui	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Saadi Mohamed yacine	Architecte d'Etat	Magister	Maître Assistant 'A'	Conception assisté par ordinateur	
Sakhraoui Nacer	Architecte d'Etat	Magister	Maître Assistant 'A'	Terminologie	
Saouli Ahecine Zineddine	Architecte d'Etat	Magister	Maître Assistant 'A'	Histoire critique de l'architecture	
Sebti Moufida	Architecte d'Etat	Magister	Maître Assistant 'A'	Géographie de l'habitat	
Seghirou Belkacem	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Sekhri Adel	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Sekkour Issam	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Tayeb Keltoum	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Youcef Kamal	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Abdou Yamina	Architecte d'Etat	Magister	Maître Assistant 'B'	Histoire critique de l'architecture	
Badache Halima	Architecte d'Etat	Magister	Maître Assistant 'B'	Dessin et art graphique	
Belarbi samia	Architecte d'Etat	Magister	Maître Assistant 'B'	Atelier de projet	
Benchikha Linda	Architecte d'Etat	Magister	Maître Assistant 'B'	Histoire critique de l'architecture	
Boudoukha Ayoub	Architecte d'Etat	Magister	Maître Assistant 'B'	Conception assisté par ordinateur	
Kachef Sarah	Architecte d'Etat	Magister	Maître Assistant 'B'	Planification et aménagement spatial	
Maatalah Mohamed Elhadi	Architecte d'Etat	Magister	Maître Assistant 'B'	Atelier de projet	
Mebarki Rym	Architecte d'Etat	Magister	Maître Assistant 'B'	Dessin et art graphique	
Necira Hakima	Architecte d'Etat	Magister	Maître Assistant 'B'	Analyse spatiale	
Tibermacine Souhila	Architecte d'Etat	Magister	Maître Assistant 'B'	Planification et aménagement spatial	

Visa du département

Visa de la faculté ou de l'institut

C. Equipe pédagogique externe mobilisée pour la spécialité :

(À renseigner et faire viser par la faculté ou l'institut)

Nom, prénom	Etablissement de rattachement	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Zerrouk Abdelhamid	Université Mohamed KHIDER Biskra	D.E.S en Géométrie différentielles	Doctorat d'Etat	Maître de Conférences 'A'	Mathématiques	
Midni Chaib Deraa	Université Mohamed KHIDER Biskra	Licence en Sociologie urbaine	Doctorat en Sciences	Maître de Conférences 'B'	Anthropologie de l'espace / de l'habitat	
Gadri Karima	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Technologie des matériaux de construction	
Chabi Samia	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Technologie des matériaux de construction	
Belkacem Mounia	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Résistance des matériaux	
Houara Selma	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Structure	
Attache Salima	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Structure	

Visa du département

Visa de la faculté ou de l'institut

C. Overall summary of human resources mobilized for the specialty:

Grade	Internal Workforce	External Workforce	Total
Teachers	3	0	**3**
Lecturers (A)	6	1	**7**
Lecturers (B)	1	1	**2**
Assistant Master (A)	45	5	**50**
Assistant Master (B)	12	0	**12**
Other (*)	6	0	**6**
Total	**73**	**7**	**80**

(*) Technical and support staff

5. Material resources specific to the specialty

A. Educational Laboratories and Equipment: Sheet of existing educational equipment for the practical work of the planned training

(1 sheet per laboratory)

Laboratory title: Computing center
Student capacity: 30

No.	Equipment title	Number	observations
01	Graphics station	01	
02	Microcomputers and complements	31	

Laboratory title: Educational laboratory of models, structures and construction materials
Student capacity: 25

No.	Equipment title	Number	observations
01	Support and various tools for making models	30	
02	Various construction and structural experimentation equipment	15	

Laboratory title: Visual Arts Room
Student capacity: 90

No.	Equipment title	Number	observations
01	Tools and workspaces for modeling and painting work	10	

Laboratory title: Physical experiment room
Student capacity: 30

No.	Equipment title	Number	observations
01	Heliodon	01	
02	Wind tunnel	01	
03	Thermohygrometer	01	
04	Lux meter	02	
05	Anemometer	01	

Laboratory title:LACOMOFA (search)
Student capacity: 30

No.	Equipment title	Number	observations
01	Various workstations	40	
02	Documentation center	01	
03	Physical environmental simulation software	03	

B. Internship sites and in-company training:

(See agreements/conventions section):

Training place	Number of students	Training period
DL, DEP, DUC and architectural and town planning offices (private and public)	160	80 hours per student

C. Documentation available at the establishment level specific to the training offered:

(Required Field)

In addition to the titles available in architecture, the library covers the following disciplines relating to architecture:

- Worksin Civil Engineering.
- Works in sociology.
- Works on urban economics.
- Work on environment and ecology.

D. Personal work spaces and ICT available at department and faculty level:

- 28 drawing workshop rooms.
- 26 TD rooms.
- 01 Amphi 300 Seats (courses).
- 01 Amphi 180 Seats (classes).
- 02 Amphis 130 Seats (classes).
- 01 Computer room with a capacity of 31 Microcomputers (for CAD and CAD work).
- Videoconferencing room (Home Cinema, Plasma, rear projectors, DVD player etc.).
- Internet room.
- Specialized documentation center.
- Reprography room.
- Topography Room.

II. Half-yearly organization sheet for specialty teaching

Semester 1:

Unitéd'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF1 (O/P)									
Matière 1: Atelier de projet 1	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 1	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 1	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM1 (O/P)									
Matière 1: Géométrie de l'espace 1	45h00	1h30	1h30			2	4	40%	60%
Matière2: Dessin et art graphique 1	45h00		3h00			2	3	100%	
Matière 3: Terminologie 1	22h30		1h30			1	2		100%
UE transversale						3	3		
UET1 (O/P)									
Matière 1: Technologie des matériaux de construction 1	22h30	1h30				1	1		100%
Matière 2: Physique	22h30	1h30				1	1		100%
Matière 3: Mathématiques	22h30	1h30				1	1		100%
Total Hebdomadaire		9h00	7h30		9h00				
Total Semestre 1	**382h30**					**20**	**30**		

Go to the 1st semester files

Semester 2:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF1 (O/P)									
Matière 1: Atelier de projet 2	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 2	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 2	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM1 (O/P)									
Matière 1: Géométrie de l'espace 2	45h00	1h30	1h30			2	4	40%	60%
Matière 2: Dessin et art graphique 2	45h00		3h00			2	3	100%	
Matière 3: Terminologie 2	22h30		1h30			1	2		100%
UE transversale						3	3		
UET1 (O/P)									
Matière 1: Technologie des matériaux de construction 2	45h00			3h00		2	2	40%	60%
Matière 2: Physique du bâtiment	22h30	1h30				1	1		100%
Total Hebdomadaire		6h00	7h30	3h00	9h00				
Total Semestre 2	**382h30**					**20**	**30**		

Go to the 2nd semester files

Semester 3:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF3-1 (O/P)									
Matière 1: Atelier projet 3	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 3	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 3	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM3 (O/P)									
Matière 1: Construction 1	45h00	1h30	1h30			2	4	40%	60%
Matière 2: Analyse spatiale	45h00			3h00		2	4	100%	
Matière 3: Terminologie 3	22h30		1h30			1	1		100%
UE transversale						2	2		
UET3 (O/P)									
Matière 1: Résistance des matériaux 1	45h00	1h30	1h30			2	2	40%	60%
UE découverte						1	1		
UED3 (O/P)									
Matière 1: Anthropologie de l'espace	22h30	1h30				1	1		100%
Total Hebdomadaire		7h30	6h00	3h00	9h00				
Total Semestre 3	**382h30**					**20**	**30**		

Go to the 3rd semester files

Semester 4:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentales						12	18		
UEF4 (O/P)									
Matière 1: Atelier projet 4	135:00				9:00	6	12	100%	
Matière 2: Histoire critique de l'architecture 4	45:00	1:30	1:30			4	4	40%	60%
Matière 3: Théorie de projet 4	22:30	1:30				2	2		100%
UE méthodologie						5	9		
UEM4 (O/P)									
Matière 1: Construction 2	45:00	1:30	1:30			2	4	40%	60%
Matière 2: Géographie de l'habitat	22:30	1:30				1	2		100%
Matière 3: Conception assistée par ordinateur	45:00			3:00		2	3	100%	
UE transversale						2	2		
UET4 (O/P)									
Matière 1: Résistance des matériaux 2	45:00	1:30	1:30			2	2	40%	60%
UE découverte						1	1		
UED4 (O/P)									
Matière 1: Séminaires et sortie de découverte anthropologie de l'habitat	22:30	1:30				1	1	60%	40%
Total Hebdomadaire		9:00	4:30	3:00	9:00				
Total Semestre 4	**382:30**					**20**	**30**		

Go to the 4th semester files

Semester 5:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentales						12	18		
UEF5 (O/P)									
Matière 1: Atelier projet 5	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 5	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 5	22h30	1h30				2	2		100%
UE méthodologie						5	9		
UEM5 (O/P)									
Matière 1: Introduction à l'urbanisme	22h30	1h30				1	2		100%
Matière 2: Planification et aménagement spatial 1	45h00		3h00			2	3	100%	
Matière 3: Equipements du bâti 1	45h00	1h30	1h30			2	4	40%	60%
UE transversale						3	3		
UET5 (O/P)									
Matière 1: Structure 1	45h00	1h30	1h30			2	2	40%	60%
Matière 2: Modélisation et simulation (BIM) 1	22h30	1h30				1	1		100%
Total Hebdomadaire		9h00	7h30		9h00				
Total Semestre 5	**382h30**					**20**	**30**		

Go to the 5th semester files

Semester 6:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF5 (O/P)									
Matière 1: Atelier projet 6	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 6	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 6	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM5 (O/P)									
Matière 1: Outils et instruments d'aménagement et d'urbanisme en Algérie	22h30	1h30				1	2		100%
Matière 2: Planification et aménagement spatial 2	45h00		3h00			2	3	100%	
Matière 3: Equipements du bâti 2	45h00	1h30	1h30			2	4	40%	60%
UE transversale						3	3		
UET5 (O/P)									
Matière 1: Structure 2	45h00	1h30	1h30			2	2	40%	60%
Matière 2: Modélisation et simulation (BIM) 2	22h30			1h30		1	1		100%
Total Hebdomadaire		7h30	7h30	1h30	9h00				
Total Semestre 6	**382h30**					**20**	**30**		

Go to the 6th semester files

Overall summary of the training:

(Indicate the separate overall VH in progress, TD, TP… for the 06 semesters of teaching, for the different types of EU)

VH / UE	UEF	UEM	UED	UET	Total
Cours	270	225	22,5	180	697,5
TD	135	382,5	0	90	607,5
TP	0	90	0	67,5	157,5
Atelier	2025	0	0	0	2025
Travail personnel	270	652,5	27,5	62,5	1012,5
Total	2700	1350	50	400	4500
Crédits	108	54	2	16	**180**
% en crédits pour chaque UE	60,00%	30,00%	1,11%	8,89%	
			10,00%		

III. Detailed program by subject of the semesters

(1 detailed sheet per subject / All fields must be completed)

Semester 1	(Return to table)
Teaching unit	UEF 1
Matter	Project workshop 1
Coefficient	6
Credit	12

Teaching objectives
Acquisition of representation and communication tools
Introduction to reading architectural space
Develop perception and analysis skills in students

Recommended prior knowledge
Notions of geometry / General knowledge

Content of the material:

- **Expression and communication tools**
  - Freehand drawing
  - Conventional technical drawing
  - The orthogonal projection
  - The working drawing
  - The architectural survey
  - Perspective and axonometry
  - The shadow line
  - Bays and openings
  - Vertical transition elements
- **Reading the architectural space**
  - Reading primary elements and shape properties
  - Analysis and interpretation of modes of transformation and association
  - Decomposition/recomposition exercises

Evaluation method:
100% Continuous Control

References
Bielefeld B., SKIBA I., Graphic Representation-Basics Technical Drawing, Birhäuser editions, 2006
BelmonT J., The 4 foundations of architecture, Le Moniteur., 1987.
Calvat G., Introduction to building design, Eyrolles editions, Paris, 1987-1990.
Chenef M., Stairs: design, sizing, execution, Paris, CSTB editions, 2008
Ching F-DK., Architecture: form, space and order, Hardcover 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Ludi JC., Perspective step by step, Manual of graphic construction of space and shadow tracing, Paris, Dunod editions, 1999.
Neufert E., The elements of construction projects, Paris, publishing Dunod, 2002.
Rabin D., The tailor-made house, Paris, le Moniteur, 2009.
Van Meiss P, From form to place, an introduction to the study of architecture, EPUL.
Yanes MD, Dominguez ER, Freehand drawing, Eyrolles editions, Paris, 2005.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 1	(Return to table)
Teaching unit	**UEF 1**
Matter	**Project theory 1**
Coefficient	**2**
Credit	**2**

Teaching objectives
Introduction to architecture
Familiarization with architectural language
Introduction to reading and understanding architectural space
Acquisition of the foundations of composition in architecture

Recommended prior knowledge
Geometry concepts
General culture

Content of the material:

- **The profession of Architect**
- **The different modes of representation and communication of the architect**
- **Composition in architecture**
  - Laws of vision and coherence factors
  - Laws of composition, essential concepts (harmony, balance, hierarchy, scale and proportions, etc.)
  - Primary elements of shape and properties of shape (geometry, dimension, position, orientation, color, texture)
  - Generation and transformation of shape (dimensional, additive, subtractive)
  - Association modes (centralized, linear, radial, raster, inclusion, nesting, juxtaposition, articulation)
  - Limits and levels of variation
  - Articulation and continuity
  - Space openings

Evaluation method:
100% Review

References
BelmonT J., The 4 foundations of architecture, Le Moniteur, 1987.
Ching F-DK, Architecture: form, space and order, Hardcover, 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Van Meiss P., From form to place, an introduction to the study of architecture, EPUL. , 1973.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 1	(Return to table)
Teaching unit	**UEF 1**
Matter	**Critical history of architecture 1**
Coefficient	**4**
Credit	**4**

Teaching objectives

The history of architecture is not easily defined, it is the history of buildings, of living, of techniques, of architects. Furthermore, the history of architecture is also that of architectural design, the notion of architecture, its definitions and their effects on the production of buildings. His teaching aims to provide an understanding of the material translation of the human spirit in the field of architecture and its evolution over time.

- Acquire the basics of an architectural culture.
- Learn to read between the stones and develop critical thinking.
- Build a repertoire of ideas and references to stimulate creativity.

Recommended prior knowledge

General culture.

Content of the subject

- Prehistory and the first refuges.
- Mesopotamian architecture.
- Egyptian architecture.
- Greek architecture.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

AURENCHE, O.(1981), The Oriental House. The architecture of the ancient Near East from the origins to the middle of the 4th millennium, 3 vols., Paris, Geuthner.
BENOIT, A.(2003), Civilizations of the Ancient Near East, Paris, RMN.
CALLEBAT, L.C.. (1998), History of the Architect, Paris, Flammarion.
CHOISY, A.(1964), History of architecture, Paris, Ed. Vincent, Fréal and Co.
Cole, E.(2003), Grammaire de l'architecture, Paris, Dessain et Tolra.
D'ALFONSO, E., SAMSA, D.(2001), Architecture: forms and styles from Antiquity to the present day (2nd edition), Paris, Solar.
FLETCHER, B.(1987), A History of Architecture, 19th ed., London.
GINOUVES, R., MARTIN, R.(1985), Methodical Dictionary of Greek and Roman Architecture, 3 vols., French Schools of Athens and Rome.
GOYON, JC et al.(2004), The pharaonic construction, Paris, Picard.
HOLTZMANN, B.(2003), The Acropolis of Athens, monuments, cults and history of the sanctuary of Athena Polias, Paris, Picard.
MARTIN, R.(1966), The Greek World, coll. Universal architecture, Fribourg.
MARTIN, R.(1974), Urban Planning in Ancient Greece, Paris, Picard.
MONNIER, G.(2001), History of architecture, Paris, PUF.
NUTTGENS, P.(2002), History of architecture, Paris, Phaidon.
STIERLIN, H.(2007), The Pharaohs builders, Paris, Terrail.

Semester 1	(Return to table)
Teaching unit	**EMU 1**
Matter	**Space geometry 1**
Coefficient	**2**
Credit	**4**

Subject objectives*:*

One of the main objectives of the first year being the mastery of the project tools, the lessons must therefore be oriented towards the acquisition of all the knowledge which will facilitate the analysis, understanding and initiation to the design of an architectural object in three-dimensional space.

The subject of DESCRIPTIVE AND PERSPECTIVE GEOMETRY must be considered as an education in architectural drawing, through its geometric foundations. Its main objective is to introduce the student to the tools of projection and graphic interpretation of an object in space, through:

* The acquisition of the geometric tools necessary for the correct representation of architectural objects, through mastery of the three methods of Euclidean representation:

Orthogonal projection, based on Monge geometry, which represents the architectural object through its orthogonal projections on one or more planes;

Axonometry,based on parallel projection, represent the architectural object in a volumetric view.

The shadow, representation of shadow in plan and facades

Content of the subject

The teaching of this module consists of two complementary parts: theoretical and practical.

- The theoretical part is given in the form of lectures explaining the main geometric concepts and their demonstrations.

-**The practical part***,*for its part, is provided in the form of tutorial sessions allowing application of the course through representations of simple volumes, done in class, and supplemented by more complete representations developed outside tutorial hours. These are monitored during consultation sessions. This type of exercises constitutes a first step in learning architectural drawing, which remains a common objective between this teaching and the teaching of architecture in the first year.

Introduction :descriptive and projective space, proper and improper elements of the plan/space reference elements: notions of dimension, point, line, surface, plane, volume, horizontality, verticality, parallelism, perpendicularity, alignments, angles.

Membership conditions and parallelism:belonging to a line, to a plane, simple intersections (straight lines, line/plane, Plane/plane), complex intersections (plane figures in orthogonal projection),

Perpendicularity conditions:straight lines and perpendicular planes, reduction to a plane projecting from any plane and straight line, application to the determination of angle and distance measurements, construction of volumes and simple structures

Shadows:clean and reachable (natural source, artificial source)

Evaluation method:

60% Examination, 40% Continuous assessment

References *(*To be defined by the teacher at the start of the semester).

Semester 1	(Return to table)
Teaching unit	**EMU 1**
Matter	**Drawing and graphic art 1**
Coefficient	**2**
Credit	**3**

Subject objectives: The training therefore aims to enable the student:
* to master observation drawing as a tool for analysis, expression and architectural communication
* to learn the architectural aspects of graphic composition and layout by learning its rules, and of color by refining chromatic perception
* to acquire an artistic culture Carried out in parallel with training in descriptive geometry, this teaching makes it possible to complete the acquired notions and to free the line and the hand for the benefit of a flexible and free expression, but constructed according to the rules art. It also allows the student to understand that the development of a presentation board for the project must obey the rules of graphic composition to be readable and highlight the assets of the project.

Content of the subject

The training consists of two complementary parts: theoretical and practical.
1. The theoretical part has the role of introducing the student to the mysteries of graphic representation through the use of different techniques, tools, rules of graphic composition, chromatic meaning, etc.
It also allows the student to acquire the means of analyzing a representation, through the study of the different significant works of the great universal and/or Algerian masters (drawing, painting, miniature, fresco, mosaic, advertising poster , commented video projection, visits to museums, exhibitions). The role of this part is also to emphasize the semiology of the manufactured images, which are not the result of chance, but express intentions by means of signs which, accumulated, will constitute a real code.
2. The practical part takes place in a drawing workshop. Exercises are planned:
* expression techniques and their effects (pencil, charcoal, watercolor, mosaic, collage, mixed techniques)
* techniques for observation and analysis of architectural elements and/or groups
(Architectural, urban, landscape perspectives; construction, proportion, texture, color, light and shadow, simplified detail)
* rules of graphic composition (background, planes, full/empty proportion, outline, center of interest, guide lines, rhythms, dynamics and statics of the composition, light and color)

Evaluation method:
100% Continuous Control

References :(To be defined by the teacher at the start of the semester).

Semester 1	(Return to table)
Teaching unit	**EMU 1**
Matter	**Terminology 1**
Coefficient	**1**
Credit	**2**

Subject objectives:
Apart from tools of graphic expression and representation, verbal communication remains a fundamental tool for the architect. Students must therefore have at their disposal from the start tools that will allow them to understand the interlocutor, and also to express themselves clearly. The aim would therefore be to familiarize the student with the architectural environment and its lexicon in order to enrich and improve their linguistic knowledge.

Content of the material:
The progressive mastery of the vocabulary specific to architecture is achieved through the discovery of projects for individual houses and buildings through architectural magazines.

Evaluation method:
100% Review

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 1	(Return to table)
Teaching unit	**UET 1**
Matter	**Building Materials Technology 1**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

Learn to make choices of construction materials based on their properties, under conditions of consistency, safety, durability and cost. Also become aware of the diversity of materials and their use in buildings.

Content of the subject

The teaching of the subject is theoretical for this first semester. This theoretical part is based on lectures which are organized around chapters, presenting the basic materials for structural works and the basic materials for coatings and finishes such as:

- The binders, the stone,
- Concrete, reinforced concrete, prestressed concrete, lightweight concrete,
- Basic ceramic products,
- plastic products,
- Wood,
- The additives,
- Ferrous and non-ferrous metals: their composition, manufacture, characteristics, classification and areas of use.

Evaluation method:

100% Review

References

- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by laboratory tests, Raymond DUPAIN,
- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by testing
- Laboratory, Raymond DUPAIN, Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ,
- Building materials 1, Prof. JP DELISLE, F. ALOU, Lausanne, October 1978
- Building materials, GI GORCHAKOV, Moscow 1988
- Housing materials, DUFOND and FAURY
- New guide to concrete and its constituents Georges DREUX, Jean FESTA, Edition Eyrolles, 1998
- Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ, Editions CASTEILLA, 2004
- Building Materials Technology, KOMAR

Recommendations:

In addition to this theoretical part, we recommend visits to construction sites or companies.

Semester 1	(Return to table)
Teaching unit	**UET 1**
Matter	**Physical**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

These lessons constitute a matrix for understanding the static and dynamic behavior of construction in its different aspects. They devote the approach to physical phenomena linked directly or indirectly to the act of building.

The main targeted objectives are:

1. Preparation of the student for technical subjects (engineering sciences) participating in the training course;
2. Developmentlogic in the interpretation of physical phenomenain the building ;
3. familiarization with engineering language.

Content of the subject

- General concepts;
- Units of measurement: the international SI system;
- Forces (static): balance, composition decomposition;
- Forces polygon and funicular polygon;
- Analytical statics;
- The statics of solids: the equilibrium conditions of solid bodies (analytically and graphically) for different forces.
- Work and energy: quantity of movement, work, kinetic energy, potential energy, total mechanical energy.
- Vibration and waves: Vibration, waves, periods and forces of inertia.
- Fluid mechanics: hydrostatics, Pascal's theorem, hydrodynamics, Bernoulli's theorem and pressure losses
- Thermodynamics: First and second law

Evaluation method:

100% Review

References

To be defined by the teacher at the start of each semester.

Semester 1	(Return to table)
Teaching unit	**UET 1**
Matter	**Mathematics**
Coefficient	**1**
Credit	**1**

The objective of teaching mathematics is to refocus the role of this science and more particularly of geometry in the training of students in architecture. The program allows the student to acquire the basic tools to formulate, represent and calculate the shapes and/or spaces that the student is able to imagine.

Content of the subject

1. The main theorems of Euclidean geometry.
2. Trigonometry reminders.
3. The different 2D and 3D coordinate systems
4. Metric properties of elementary geometric figs
5. Study and geometric construction of regular polygons
6. 2D isometric transformations.
7. Reminder of regular polygons; Study and geometric construction of Platonic polyhedra.
8. Geometry and vector calculation.
9. Dies

Evaluation method:
100% Review

References

To be defined by the teacher at the start of each semester.

Semester 2	(Return to table)
Teaching unit	UEF 2
Matter	Project workshop 2
Coefficient	6
Credit	12

Teaching objectives
Develop the student's perception and design skills

Recommended prior knowledge
Project Workshop 1
Project Theory 1

Content of the material:

-Initiation to the relationship between form and functional requirements
-Initiation to construction systems and architectural framework
-Introduction to the formatting of an architectural concept
-Introduction to the formatting of the architectural project: synthesis project

Evaluation method:
100% Continuous Control

References
BelmonT J., The 4 foundations of architecture, Le Moniteur, 1987.
Ching F-DK, Architecture: form, space and order, Hardcover, 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Salvadori M., How does it hold, Parentheses, 2005.
Van Meiss P, From form to place, an introduction to the study of architecture, EPUL, 19986.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 2	(Return to table)
Teaching unit	**UEF 2**
Matter	**Project theory 2**
Coefficient	**2**
Credit	**2**

Teaching objectives
Introduction to the interaction and interdependence between the elements of the form/function/structure triptych in the architectural design process.

Recommended prior knowledge
Project theory 1

Content of the material:

- Shape/space/structure relationships
  - Introduction to structure
  - Structure and architecture (frames, roofing, tensile structures)
  - Relationships between materials/structure/form/space

- Introduction to project formatting
  - Systems of proportions
  - Special proportions: The modulor
  - Dimensional coordination and its implications in the project
  - Ergonomics and architecture
  - Basic notions of programming

3/ Projection process, its scales and stages

Evaluation method:
100% Review

References
BelmonT J., The 4 foundations of architecture, Le Moniteur, 1987.
Ching F-DK, Architecture: form, space and order, Hardcover, 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Salvadori M., How does it hold, Parentheses, 2005.
Van Meiss P, From form to place, an introduction to the study of architecture, EPUL, 19986.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 2	(Return to table)
Teaching unit	**UEF 2**
Matter	**Critical History of Architecture 2**
Coefficient	**4**
Credit	**4**

Teaching objectives

- Understand the material translation of the human spirit in the field of architecture and its evolution over time.
- Acquire the basics of an architectural culture.
- Learn to read between the stones and develop critical thinking.
- Build a repertoire of ideas and references to stimulate creativity.

Recommended prior knowledge

Critical history of architecture 1 / General culture.

Content of the subject

- Architecture**Roman**(take into consideration the Roman cities of Algeria) / Architecture**Byzantine**/ Architecture**Roman**/ Architecture**Gothic**.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

ADAM, J.P.(2005), Roman construction, Paris, Picard.
BARRAL I ALTER,(1997), Early Middle Ages: from late antiquity to the year 1000, Cologne, Taschen.
CHARLES-PICARD, G.(1962), Roman Art, Paris, PUF
Cole, E.(2003), Grammaire de l'architecture, Paris, Dessain et Tolra.
f.CONTI, MC GOZZOLI, (1998) Knowing art, Roman, Gothic, Baroque, Renaissance, Comptoir du Livre, Paris.
DAVEY, N.(1961), A History of Building Materials, London.
DUBY, G.(1966), The Middle Ages, 2, The Europe of Cathedrals, Geneva.
GINOUVES, R., MARTIN, R.(1985), Methodical Dictionary of Greek and Roman Architecture, 3 vols., French Schools of Athens and Rome.
MANGO, C.(1993), Byzantine architecture, Paris, Gallimard.
MUMFORD, L.(1964), The city through history, Paris, Seuil.
PERRAULT, C.(1988), The ten architectural books of Vitruvius, Liège, Pierre Mardaga.
SUTTON, I.(2001), Western architecture from ancient Greece to the present day, Paris, Thames & Hudson.
TARICAT, J.(2003), Histoires d'architecture, Marseille, Éditions Parenthesis.
TOMAN, R.(1996), Romanesque Art, Cambridge, Konemann.
VERGARA, L., TOMASELLA GMD(2001), Recognizing architectural styles: from prehistory to contemporary architecture, Paris, De Vecchi.
WARD-PERKINS, J.B.(1994), Roman architecture, Paris, Gallimard.

Semester 2	(Return to table)
Teaching unit	**EMU 2**
Matter	**Space geometry 2**
Coefficient	**2**
Credit	**4**

Subject objectives*:*

Application of the acquired knowledge from the first semester of teaching to the representation of polyhedra and surfaces of revolution, which allows complex volumes, their intersections and the shadow effects they produce to be translated into a plan. Content of the subject

Concept of polyhedra:definition and classification (regular polyhedra, sections and developments, symmetry elements, topological properties)

Surfaces of revolution:conical, cylindrical and spherical surfaces, their representation, section and development, own shadows and cast shadows

Surface development:determination of developments

Intersection of two surfaces: type of intersection, construction method, intersection lines

Perspective :based on the central projection, which allows you to have an image of the object relative to a point of view, close to that of the photograph, without neglecting the possibilities of a precise metric reading

* Highlighting their correlation and complementarity, essential in the study of the object and architectural space.

Evaluation method:

60% Examination, 40% Continuous assessment

References *(*To be defined by the teacher at the start of the semester).

Semester 2	(Return to table)
Teaching unit	**EMU 2**
Matter	**Drawing and graphic art 2**
Coefficient	**2**
Credit	**3**

Subject objectives:

Familiarization with the third dimension is one of the basic and essential components for fully understanding architecture. The direct approach to this notion through the sculptural type volume proves to be complementary, even essential, to give the student a more in-depth and reliable tool and understanding of architectural design. The practical manipulation of the material also allows the student to better understand the relationship between the idea and its realization in reality.

Furthermore, this teaching aims to give the student the opportunity to practice the simultaneous design/realization of his idea through mastery of the notion of proportion in three dimensions, observation techniques, texture and physical properties of materials (clay, plaster, ceramic, iron, wood, papier-mâché, soap, etc.)

Content of the material:

The training consists of two complementary parts: theoretical and practical.

The theoretical parthas the role of introducing the student to the mysteries of sculpture: different techniques, tools, materials and their possibilities. It also allows the student to acquire the means of analyzing a sculptural work, through the study of the different significant works of the great masters or the great civilizations (commented video projection, visits to museums, exhibitions) and observation of interesting architectural works (field trips: sculpture in the city, sculpture in architecture).

1. **Theorical class**:

* Technical and artistic drawing
* Sculpture in history
* The architecture of the sculpture (materials, framework, texture)
* The concepts of sculptural composition (expression, proportion, angles of view)
* The relationship between sculpture and architecture
* relief sculpture
* Sculpture in an urban environment
* modeling and assembly
* stereo lithography and digital sculpture

2. The practical part takes place in a sculpture workshop. Exercises are planned:

* architectural bas-relief allows us to observe the effects linked to the nature of the line, the play of shadows and light on a flat surface, the difficulties of handling and the fragility of the material;
* the complex volumetric composition makes it possible to grasp the laws of nesting of volumes, composition, proportion, balance and stability of the work;
* the abstract composition integrated into the architectural or urban space allows the sculptural representation of an idea, of a metaphor inscribed in a precise context. This exercise will develop the student's creative abilities within the constraints of the employment environment.

Evaluation method:

100% Continuous Control

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 2	(Return to table)
Teaching unit	**EMU 2**
Matter	**Terminology 2**
Coefficient	**1**
Credit	**2**

Subject objectives:
Apart from tools of graphic expression and representation, verbal communication remains a fundamental tool for the architect. Students must therefore have at their disposal from the start tools that will allow them to understand the interlocutor, and also to express themselves clearly. The aim would therefore be to familiarize the student with the architectural environment and its lexicon in order to enrich and improve their linguistic knowledge.

Content of the material:
The progressive mastery of the vocabulary specific to architecture is achieved through the discovery of projects for individual houses and buildings through architectural magazines.

Evaluation method:
100% Review

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 2	(Return to table)
Teaching unit	**UET 2**
Matter	**Building Materials Technology 2**
Coefficient	**2**
Credit	**2**

Subject objectives*:*
Learn to make choices of construction materials based on their properties, under conditions of consistency, safety, durability and cost. Also become aware of the diversity of materials and their use in buildings.

Content of the subject

The teaching of the subject for this second semester is practical and is organized in the form of practical work. The student will discover the practical applications of the theoretical concepts acquired during the TMC1 courses.

The objective of the TPs is to get to know construction materials through:
* practical handling in the TMC laboratory
* field visits (construction sites, factories)
* the drawing of basic constructive details (assembly of various coverings, finishing fixings, etc.)

Evaluation method
60% Examination, 40% Continuous assessment

References

- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by laboratory tests, Raymond DUPAIN,
- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by testing
- Laboratory, Raymond DUPAIN, Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ,
- Building materials 1, Prof. JP DELISLE, F. ALOU, Lausanne, October 1978
- Building materials, GI GORCHAKOV, Moscow 1988
- Housing materials, DUFOND and FAURY
- New guide to concrete and its constituents Georges DREUX, Jean FESTA, Edition eyrolles, 1998
- Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ, Editions CASTEILLA, 2004
- Building Materials Technology, KOMAR

Recommendations
the practical exercises can be performed in cooperation with the project workshop and the sculpture workshop.

Semester 2	(Return to table)
Teaching unit	**UET 2**
Matter	**Building physics**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

The chapters included in this part of physics teaching correspond to the different phases of the progress of a construction project (structural works and CES). The lessons thus acquired constitute an essential foundation for understanding the static and dynamic behavior of construction and its equipment in all their aspects.
In addition to understanding certain physical phenomena linked directly or indirectly to the act of building, the main objectives targeted are:
-the preparation of the student for the technical subjects contained in the training course (RDM, heating, air conditioning, lighting, water and electricity supply, acoustic insulation, etc.);
-the development of logic in the interpretation of physical phenomena;
-the familiarization of the student architect with the language of the engineer.

Content of the subject

- **Fluids:**the laws of hydrostatics, theorems of Pascal and Archimedes, the laws of hydrodynamics, Bernoulli's theorem, laws and different types of flow of a liquid.
- **Thermal:**heat, temperature, heat transfer laws, calculation of losses (equivalent circuit).
- **Acoustics:**sound waves, sound pressure, physical level of sound, sound transmission, reflection and absorption of sound waves.
- **Photometry:**photometric quantities.
- **Electricity :**electric current, Ohm's law, Kirchoff's theorem, electric energy, electric power.

Evaluation method
100% Review

References
Sébastien Candel, “Fluid mechanics: Course”, Edition Dunod, 2001.
A. Bianchi, Y. Fautrelle, J. Etay, “Thermal transfers”, Edition Agence universitaire de la Francophonie, 2004
Antonio Fischetti, “Initiation to acoustics: Courses and exercises”, Edition Berlin, 2004

Semester 3	(Return to table)
Teaching unit	UEF 3
Matter	Project workshop 3
Coefficient	6
Credit	12

Teaching objectives
Integration of the project into its environmental context
Acquisition of notions of comfort

Recommended prior knowledge
Project workshop 1 and 2
Project theory 1 and 2

Content of the material:

- **Analysis of the implementation context**
  - Site Features
  - Identification of constraints and potentialities

- Comfort and ladders
  - Integration of comfort parameters (hygrometric, sensory, etc.) according to different scales (territorial, urban, architectural)

- Developing a housing project

Evaluation method:
100% Continuous Control

References

Faye P&B., M.Tournaire, A.Godard, Site and Sitology, how to build without breaking the landscape, JJ.PAUVERT, 1974,
LynchK., The image of the city Paris, Dunod, 1969,
PaneraiP.,DemorgonMr.,DepauleJP., Urban analysis,Parentheses, 1999
Panerai P., Castex J.,DepauleJP., Urban forms from the block to the bar, parentheses, 2001
Givoni.B, Man, architecture and climate, the monitor, 1978
Rapoport A., For an Anthropology of the house, Paris Dunod, 1972

Semester 3	(Return to table)
Teaching unit	**UEF 3**
Matter	**Project theory 3**
Coefficient	**2**
Credit	**2**

Teaching objectives
Understanding of the dialectic of site/project containing/content, spaces/uses.

Recommended prior knowledge
Project theory 1 & 2
Project 1 & 2

Content of the material:

- **SITE AND INTEGRATION WITH THE SITE:**
  - **A. the site**

1/ Definition of the concept "site".
2/ Perception of a natural site: silhouettes, contours, textures, groupings, focal points, landmarks, lights, scales, etc.

- **B. - Integration into the site (relationship of the building to its environment):**

1/ Definition of the different types of integration (functional integration, socio-cultural integration, morphological integration, etc.)
2/ The different attitudes of the architect towards the built environment (Pastiche, mimicry, reference, analogy, opposition, etc.)

- **COMFORT IN THE BUILDING:**
  - ✓ Concepts of comfort, physical parameters of the environment, elements of comfort, regulations and control strategies for improving the quality of life in the building.
  - ✓ The themes to be taught will be approached from the perspective of sustainable development allowing the student to acquire new knowledge based on recent scientific references.
  - ✓ These objectives will be met by courses on the control of physical parameters of the environment such as climate and its relationship to architecture, micro climate and urban micro climate, sun and wind factors, light, noise, and the determinants of psychological comfort.

- **METHOD FOR ANALYZING A CONSTRUCTION SUPPORT SITE:**
  - **A. Earthmoving techniques.**

- Topographic sections and enlargement of land.

- **B. Analysis of an urban fabric:**

1/ Definition of concepts: The neighborhood, the neighborhood unit, the residential group, etc.
2/ Notions on urban regulations and planning instruments (PDAU, POS, etc.)
3/ Issues and necessities and content of urban analysis.

Evaluation method:
100% Review

References

Faye P&B., M.Tournaire, A.Godard, Site and Sitology, how to build without breaking the landscape, JJ.PAUVERT, 1974,
LynchK., The image of the city Paris, Dunod, 1969,
PaneraiP.,DemorgonMr.,DepauleJP., Urban analysis,Parentheses, 1999
Panerai P., Castex J.,DepauleJP., Urban forms from the block to the bar, parentheses, 2001
Givoni.B, Man, architecture and climate, the monitor, 1978
Rapoport A., For an Anthropology of the house, Paris Dunod, 1972

Semester 3	(Return to table)
Teaching unit	**UEF 3**
Matter	**Critical History of Architecture 3**
Coefficient	**4**
Credit	**4**

Teaching objectives

LThe critical history of architecture subject of the second year focuses on architecture and the city in the territories of Islam. The teaching of this subject aims not only at an event-based and chronological knowledge of the different architectural manifestations but also at an attempt to categorize the latter linked to different socio-economic and cultural contexts, participating in the creation of knowledge on the project of 'architecture. Indeed,The main objective of teaching history for architects is to present and analyze project experiences, through their forms and the processes that generated them, which will serve to fuel the student's thinking and enrich his imagination. Because the architectural project involves three temporalities: by being mainly in the present, it questions the past and projects into the future.

Recommended prior knowledge

Critical history of architecture 1 and 2.
General culture.

Content of the material:from the birth of Islam to the decline of central powers.
- The Muslim world, geographical and historical elements.
- First Muslim architecture (610-661).
- City(s) and architecture(s) during the Umayyad period (661-750).
- City(s) and architecture(s) during the Abbasid period (750-945).

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

BURCKHARDT, T.(1985), The art of Islam, Language and meaning, Paris Sindbad.
CHEVALIER, D.(1979), The social space of the Arab city, Paris, Maisonneuve and Larose.
DJAÏT, H.(1986), Al-Koufa, birth of the Islamic city, Paris, Maisonneuve and Larose.
GOLVIN, L.(1971), Essay on Muslim religious architecture, Paris, Klincksieck.
M. HATTSTEIN AND P. DELIUS (dir.) (2008)*LIslam Arts and civilizations*, Berlin, hfullmann.
THE GOOD, G.(2009), The civilization of the Arabs, Algiers, Casbah éditions.
MOZATTI, L.(2003), The art of Islam, Paris, Mengès.

ابن الرامي"الاعلان باحكام البيان".
صالح الهذلول،"المدينة العربية الاسلامية"، الرياض ،1413ه.
مصطفى أحمد بن حموش ،"رياض القاسمين ، فقه العمران الاسلامي لصاحبه القاضي كامي محمد بن أحمد بن ابراهيم الأدرنوي الحنفي أفندي(1649-1723م)"، دار البشائر دمشق،2000م.

Semester 3	(Return to table)
Teaching unit	**EMU 3**
Matter	**Build 1**
Coefficient	**2**
Credit	**4**

Subject objectives

This course aims to introduce the student to the fundamental notions of structure and stability of the building, to transmit the vocabulary and basic knowledge on construction processes, earthworks and materials. It must allow him to have the knowledge which will enable him to be able to design a structure and to be able to justify simple technical choices when designing his future projects.

Content of the subject

The material is partly organized theoretically in the form of a lecture and a tutorial supplemented by a connection with the work in Project Workshop 3.

I/ Requests

1. Actions requiring a building
2. Forces and sets of forces
3. Request/constrain
4. Balance of more than two forces in a plane
5. Connections and bracing

II/ design of a structure

6. Adaptation to the ground: superficial and deep foundations;
7. Structures and structural elements of the building: load-bearing elements, crossing;
8. Roles, stresses and deformations of the elements of the main structure.

III/ Earthworks.

Excavations, excavations, execution of backfills, calculation of cubes, compaction, reinforcement of soils

Construction TD: Essentially consists of carrying out site visits, as well as laboratory manipulation of materials and construction, in order to become familiar with the constraints of the site:

Layout and chairs
Use of the site level, the theodolite and the tape measure.
Cutting and filling / Calculation of earthworks
The retaining wall, the buttresses, the drainage, the reinforced concrete sails.
Foundations, their role in construction

Bibliographic references:

Building construction technology J. PUTATI (ed EYROLLES)
Treatise on civil engineering (vol 7-8-10-11-18-19-20) Presses polytechniques et universitaire Romandes EPFL. Lausanne.
Reinforced concrete structures H. Reanaud /F. Letrertre (ed. FOUCHER –France.)

Semester 3	(Return to table)
Teaching unit	**EMU 3**
Matter	**Spatial analysis**
Coefficient	**2**
Credit	**4**

Subject objectives:
This subject aims to describe and explain a spatial organization through the analysis and definition of the physical and human characteristics of places by relating territories and their components, whatever their nature. Secondly, the space considered as the result of the games of the different actors.

Content of the material:
This subject will be covered mainly in guided or practical work, the theoretical notions can be explained briefly at the start of each session
The course is structured around the following axes:
Topography :involves the representation of a part of the earth's surface on a plane, by a correspondence of points on the earth/points of the plane projection, the representation of the shapes of the terrain (aerial photographs and field survey)
Geomorphological reading: identification of terrain shapes/relief shapes: side points, isohypses, etc.
Learning analysis and representation techniques: making topographic sections, slope maps, site models, geological sections (soil reliability).
Toponymic reading:meaning, identification, interpretation and representation of place names in geographical, historical and architectural studies.
Learning techniques, scales, standards of representation:
In topography: will be used: The basic planimetric and altimeter canvas, The direct topographic survey: choice of survey scales (Notions of small survey scale (≥ 1/40,000), Large survey scale (1/10,000 to 1/20,000 - Very large scale (< 1/10,000).
In thematic cartography and graphic semiology:will be discussed:
For a plane geometric representation: geodesic steps.
For a simplified and conventional representation: the reasoned schematization of significant details of the terrain.
Choice of projection system and unlimited cartographic transcription
Thematic mapping: definitions, objectives and method.
Cartographic transcription of concepts recorded in geographical space (cartographic figures, the graphic form of writing, conventional signs): Structure and property of the cartographic image and visual variables.
Thematic representation and writings.

Evaluation method:
100% Continuous Control

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 3	(Return to table)
Teaching unit	**EMU 3**
Matter	**Terminology 3**
Coefficient	**1**
Credit	**1**

Subject objectives:
Apart from tools of graphic expression and representation, verbal communication remains a fundamental tool for the architect. Students must therefore have at their disposal from the start tools that will allow them to understand the interlocutor, and also to express themselves clearly. The aim would therefore be to familiarize the student with the architectural environment and its lexicon in order to enrich and improve their linguistic knowledge.

Content of the material:
The progressive mastery of the vocabulary specific to architecture is achieved through the discovery of projects for individual houses and buildings through architectural magazines.

Evaluation method:
100% Review

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 3	(Return to table)
Teaching unit	**UET 3**
Matter	**Material resistance 1**
Coefficient	**2**
Credit	**2**

Subject objectives

The main objective of the RDM module in the training of the architect is that he must be able to understand and feel the behavior of the structure which will support his work, whatever the materials which constitute it. This involves understanding the physical phenomena involved (force, balance, stress, resistance, deformation, etc.) and their consequences for the design (choice of a material, geometry of the elements and their section, types of assemblies). The resistance of materials taught to second year students, which constitutes a basic subject for the structure modules of the following years, consists of giving them all the ingredients necessary for a good understanding of the theory of RDM.

Content of the subject

- Forces- Moments- Actions. Generally speaking, force is a physical concept which expresses the action that one body exerts on another.
- Principles- Representation of forces, moments and displacements. Forces and moments obey three
- Principles from which we can understand the analysis of the play of forces in structures.
- Balance. We must consider balance in plan and space to ensure the overall stability of a structure.
- Structural element. A structure is a set of elements (horizontal, vertical, etc.)
- The supports
- Calculation of beams
- Diagrams of internal forces (bending moment, shear forces and axial forces) in the
- Beams
- Concepts of constraints
- Mechanical properties of materials

Evaluation method

60% Examination, 40% Continuous assessment

References

RDM memory aid (Pissarenco, Ed Moscow)
Analysis of structures (Med. Osman Zakaria 1986-OPU Algiers)
Statics of constructions (Dobrescu –Alexandru OPU Algiers)
Dobrescu C and Alexandru “Construction statistics” (OPU 1992)
JC Doubrère “Practical course on the resistance of materials” (Edition Eyrolles 1979)
Anissimov, Djilali Berkene, Strakhov “Buckling-isostatic systems of bars” (OPU 1987)
Pissarenco “RDM memory aid” (Ed Moscow)
Med. Osman Zakaria “Analysis of structures” (1986-OPU Algiers)
Dobrescu –Alexandru “Static of constructions” (OPU Algiers)
Goulet Jean “Resistance of materials”

Semester 3	(Return to table)
Teaching unit	**DEU 3**
Matter	**Anthropology of space**
Coefficient	**1**
Credit	**1**

Subject objectives*:*
Recognize the interrelationships that exist between man and the space in which he lives.

Content of the subject

- relationship of man to space
- relationship of space to man.
- the dimensions of space
  - temporal dimension
  - spatial dimension
  - functional dimension
  - social dimension
  - identity dimension (cultural)

Evaluation method
100% Review

References

Edouard hall, the hidden dimension, threshold Paris, 1971
Jean cousin, living space, introduction to the first architectural space, Le Moniteur 1980
Amos rapoport, for an anthropology of the house, 1972

Semester 4	(Return to table)
Teaching unit	UEF 4
Matter	Project workshop 4
Coefficient	6
Credit	12

Teaching objectives
Mastery of the notion of living
Design of a residential complex

Recommended prior knowledge
Project workshop 1, 2 & 3
Project theory 1, 2 & 3

Content of the material:

- Housing typologies
- Standards in the field of housing (density, surface standards, durability, etc.)
- Program analysis
- Analysis of the installation site
- Project design

Evaluation method:
100% Continuous Control

References
Faye P&B., M.Tournaire, A.Godard, Site and Sitology, how to build without breaking the landscape, JJ.PAUVERT, 1974.
Givoni.B, Man, architecture and climate, the monitor, 1978.
LynchK., The image of the city Paris, Dunod, 1969.
PaneraiP.,DemorgonMr.,DepauleJP., Urban analysis,Parentheses, 1999.
Panerai P., Castex J.,DepauleJP., Urban forms from the block to the bar, parentheses, 2001.
Rapoport A., Pour une Anthropologie de la maison, Paris Dunod, 1972.
Wright D., Sun, nature, architecture, parentheses, 1979.

Semester 4	(Return to table)
Teaching unit	**UEF 4**
Matter	**Project theory 4**
Coefficient	**2**
Credit	**2**

Teaching objectives

Raise student awareness of housing problems in the sense of "habitability"

Integrate socio-cultural factors into the design of housing which must be considered as an integral part of the city.

Research the principles and concepts of "living" which take into account the reality of Algerian society and would allow the design of a habitat adapted to the lifestyle and cultural model of the Algerian family.

Recommended prior knowledge

Project theory 1, 2 & 3
Project workshop 1, 2 & 3

Content of the material:

- Introductory course on the concept of habitat, definitions of concepts (habitat, dwelling, living, inhabited, etc.)
- Overview of Algeria's housing policy.
- Housing production mode (administered, planned).
- Appropriation of the living environment/way of life, cultural model and practice of space.
- Housing typologies in Algeria
- Habitat around the world.
- Building legislation and regulations.

Evaluation method:

100% Review

References

Arnold F., Collective housing from design to rehabilitation, Le Moniteur, 2005.

Semester 4	(Return to table)
Teaching unit	**UEF 4**
Matter	**Critical History of Architecture 4**
Coefficient	**4**
Credit	**4**

Teaching objectives

- Have a culture of architecture in Islamic countries.
- Integrate this culture into processes*projectual*.

For more details, refer to semester 3.

Recommended prior knowledge

Critical history of architecture 3.
General culture.

Content of the material:the architecture of local dynasties in the West and the East.

- Muslims in the West, the historical backdrop.
- Muslims in the Orient, the historical backdrop.
-City(s) and "Muslim" architecture(s) of the unifying dynasties of the West:
    a. The Umayyads in Cordoba and Granada
    b. The Fatimids in Cairo
    c. The Almohads in Morocco
    d. The Ottomans in Algiers
- "Muslim" city(s) and architecture(s) of some local dynasties of the Orient.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

CAMBUZAT, PL(1986), The evolution of the cities of Tell in Ifrîkya from the 7th to the 11th century, Algiers, OPU.
CHERIF-SEFFADJ, N. (2008),*The baths of Algiers during the Ottoman period (16th – 19th centuries),*Paris, Pups.
CHERGUI, S. (2011),*The mosques of Algiers. Build, manage and conserve (16th–19th centuries),*Paris, Pups.
GUECHI, FZ(2004), Constantine: a city, legacies, Algiers, Éditions Média-Plus.
M. Hattstein and P. Delius (eds.) (2008)L*Islam Arts and civilizations*, Berlin, hfullmann.
KHELIFA, A.(2011), Tlemcen, Capital of the Central Maghreb, Algiers, Colorset.
KORBENDAU, I.(1997), The sacred architecture of Islam, Paris, ACR.
MARÇAIS, G.(1955), Muslim architecture in the West, Paris, Graphic Arts and Crafts.
MISSOUM, S.(2003), Algiers in the Ottoman era, The medina and the traditional house, Algiers, INAS.
RAYMOND, A.(1985), Large Arab cities in the Ottoman era, Paris, Sindbad.
STERLIN, H.(1979), Architecture of Islam from the Atlantic to the Ganges, Fribourg, Book Office.
مصطفى بن حموش"جوهر التمدن الاسلامي دراسات في فقهه العمران"دار قابس للطباعة والنشر والتوزيع.
محمدعبد الستار عثمان ، المدينة الاسلامية، عالم المعرفة، الكويت ،1988.

جميل عبد القادر أكبر،"عمارة الأرض في الاسلام"، دار القبلة للثقافة الاسلامية(جدة)، مؤسسة علوم القرآن(بيروت)،1992.

Semester 4	(Return to table)
Teaching unit	**EMU 4**
Matter	**Build 2**
Coefficient	**2**
Credit	**4**

Subject objectives

This teaching aimsto explain the impact of the finishing work of the building on the control of comfort and internal security and to take stock of the complexity of controlling the environments in the building.

Content of the subject

After having addressed the structural works component, we approach the teaching of the second work and its role in controlling the comfort and interior atmospheres of the building.

Theoretical portion :

1. Construction and thermal and hygrometric environments:
* Different types of roofing, building waterproofing, thermal and hygrometric behavior
* Thermal and aerodynamic behavior of walls (heavy facades, light facades, facade coverings)
* Different types of carpentry and aerodynamic, hygrometric and thermal insulation of the building.
2. Construction and soundscapes:
* Exterior acoustic insulation of the building (ambient noise)
* Interior acoustic insulation (ambient noise, impact noise)

Practical side :

Essentially consists of carrying out laboratory manipulations and carrying out practical construction project exercises in order to understand the behavior of a structure subject to different external constraints: aerodynamic, thermal, water, acoustic.
The exercises are carried out at the three scales of architectural design: sketch (scale 1/200), preliminary project (scale 1/100) and execution project (scale 1/50) construction details (scale 1/20 and 1 /10).

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 4	(Return to table)
Teaching unit	EMU 4
Matter	Habitat geography
Coefficient	1
Credit	2

Subject objectives:

The field of study of housing geography has three major objectives:

- The study of the relationships between man and his modified and developed physical environment.
- The analysis of the habitat according to its own morphological and socio-demographic particularities.
- Analysis of the structure of housing through its basic level: the neighborhood and its facilities.

Content of the material:

The course is structured around three parts:

1. First part: Habitat and geographical environment

- Environment and geographical environment
- Natural, modified and landscaped landscape
- Human settlements and natural environment

The analysis of the site and its components as elements of constraint or incentive for the establishment of human activities and the structures which support them: topography, hydrography, nature of the soil and subsoil, climate; Risk sites: flood-prone, unstable, marshy, polluted, seismic land. Impacts of site and geographic location on urban integration.

2. Second part: Habitat and population

- Mechanisms and processes leading to the formation of the built space: (Identification of the inhabited space according to its different physical and human components, factors at the origin of the formation of the habitat, typologies of the habitat, forms and locations specific)
- Traditional rural and urban housing (adaptation to the environment, typology, morphological classification)
- Housing and population (demographic and socio-economic particularities, resident population and population densities, different load indicators: TOL, TOP, activity indicators: BAE, CSP, household transformations and their mobility)
- Urban morphology and social morphology (socio-spatial distribution)

3. Part Three: Neighborhood as a unit of urban life

- Neighborhood, basic level of the urban structure (definitions, typology, different approaches to the concept of the neighborhood, functional, social, cultural criteria
- Neighborhood and its facilities (different urban functions and relational life, facilities, their standardization classification and typology, neighborhood facilities)
- Equipment related to housing (supporting equipment, public services and local private services)
- Neighborhood in the city (specialization of neighborhoods, spatial diversity)

Bibliographic references:

Cote Marc: “Countries, landscapes, peasants of Algeria”, CNRS Edition.
Derruau Max: “Precis of human geography”, Edition Armand Colin 1976.

Merlin. P and Choay. F: “Dictionary of town planning and development”, PUF 2000.
Rapoport Amos: “For an anthropology of the house”, Edition DUNOD.
Saidouni. M: “Introductory elements to town planning”, Edition Casbah / Algiers 2000.

Semester 4	(Return to table)
Teaching unit	**EMU 4**
Matter	**Computer Aided Design**
Coefficient	**2**
Credit	**3**

Subject objectives*:*

Introduce basic knowledge in the field of IT (office automation, intranet, Internet, hard and soft computing) Initiate a "digital culture", develop a methodology for research, structuring and presentation of information. Provide students with work tools allowing them to produce graphic parts of the project more quickly and with high precision.

Experiment with an interactive tool providing the architect with various manipulation possibilities in 2D and 3D, giving access to quick checks for conceptual choices.

Understand the methodological differences in using prototyping tools and production tools as design assistance.

Content of the subject

1. Introduction to basic knowledge (concept of information, database and its representation)
2. Knowledge about the operating system
4. Presentation of the CAD software (general, command syntax, entity properties)
5. Drawing commands (precision tools, layers, text, dimensions, graphics, etc.)
6. Editing commands (selection, selection modes, parameters…)
7. Learning a 3D design tool (coordinate system; 3D wire, surface and solid modeling; axonometry and perspective projections,
8. Basic notions of surface and solid treatment tools and techniques (Boolean operations): rotation in space, symmetry, etc.)
10. Concept of introducing cameras into a construction project and how to carry out a visit tour.

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 4	(Return to table)
Teaching unit	**UET 4**
Matter	**Material resistance 2**
Coefficient	**2**
Credit	**2**

Subject objectives*:*

The main objective of the RDM module in the training of the architect is that he must be able to understand and feel the behavior of the structure which will support his work, whatever the materials which constitute it. This involves understanding the physical phenomena involved (force, balance, stress, resistance, deformation, etc.) and their consequences for the design (choice of a material, geometry of the elements and their section, types of assemblies). The resistance of materials taught to second year students, which constitutes a basic subject for the structure modules of the following years, consists of giving them all the ingredients necessary for a good understanding of the theory of RDM.

Content of the subject

1. **Tension and Compression**
   - Parts subject to traction.
   - Parts subject to compression.
2. **Simple bending.**
   - Parts subjected to simple bending (slabs and beams).
   - Concept of bending moment; calculations and diagrams.
3. **Hyperstatic systems.**
   - Degree of hyperstaticity.
   - Hyperstatic planar structures.
   - Hyperstatic beams.
     - Three-moment method.
     - Caquot method.
     - Flat rate method.
4. **Frames and portals.**
   - Travel methods.
5. **Trellis systems.**
   - General.
   - Geometry.
   - Balance of a node.

References

Construction statistics (Dobrescu C and Alexandru OPU 1992)
Calculation of hyperstatic structures (Gheorghe Momanu OPU 1993)
Resistance of materials Volume 2 (Jean Roux Edition Eyrolles 1995)
RDM cheat sheet (Pissarenco, Ed Moscow)
Analysis of structures (Med. Osman Zakaria 1986-OPU Algiers)
Statics of constructions (Dobrescu –Alexandru OPU Algiers

Semester 4	(Return to table)
Teaching unit	**DEU 4**
Matter	**Seminars and discovery outings on the anthropology of habitat**
Coefficient	**1**
Credit	**1**

Goals : After the course on the anthropology of space, the seminars on the anthropology of habitat shed light on the interaction between the inhabitant, their environment and the habitat. These seminars are necessarily supported by discovery outings which will allow the student to test the knowledge acquired through in situ observations.

Content :

1. **Seminar part:**
   - Introduction to the anthropology of habitat;
   - Notions of occupation: shelter, appropriation, personal space
   - The notion of limit and orientation: Humanized space/non-humanized space, Interior and exterior, The limits of the top and the bottom, The passages and crossing of limits, The oriented layout of space, The house and its directions .
   - The impact of living space on the individual: perception (learning, psychological development, identity) at the individual and group level.
   - Space and behavior: control, power and interaction
   - Influence and projection of lifestyle on housing production
   - Dimensions of housing space: symbol, culture and identity

2. **Discovery outing part:**

Discovery outings are scheduled during semester 4 over a period ranging from 7 days to 15 days maximum in one or more phases. It is recommended that these outputs be managed by the Project Workshop subject. Teachers of project workshops will need to put in place a roadmap setting the objectives according to which students will be evaluated.

It is important to note that for the implementation of these outings, it is strongly encouraged that conventions and exchanges be put in place between the different universities and public or private institutions in order to promote the mobility and exchange of students.
Reception by public or private institutions responsible for project management or architectural and urban project management is desirable.

Assessment :

Attendance at the seminars is compulsory and is validated by an exam which will count for 40% of the overall evaluation of the subject.

The evaluation of discovery outputs will be done on the basis of a report, the form of which is left to the discretion of the teachers in charge and which will count for 60% of the overall evaluation of the subject.

Reference :

A. RAPOPORT, For an anthropology of the house. Paris, Dunod, 1972

G. BACHELARD, The poetics of space

JC FABRE, House between Heaven and Earth

D. FORDE, Housing, Economy, Society

Semester 5	(Return to table)
Teaching unit	**UEF 5**
Matter	**Project workshop 5**
Coefficient	**6**
Credit	**12**

Teaching objectives:
Considered as a "specific method of acquiring architectural knowledge and know-how", the project 5 workshop will have the following mission:

- To move from "conceptualization" to "design", from theoretical representation to the graphic formatting of the object
- To overcome the phobia of the "blank sheet" (problem situation)
- To encourage the emergence of the unifying idea of the architectural project.
- Understand how we make architecture.

It will be based on didactics which will favor reflection as a corollary to design activity.

Recommended prior knowledge
Project workshop 1, 2, 3 & 4
Project theory 1, 2, 3 & 4
HCA 1, 2, 3 & 4

Content of the material:
The architectural project or learning how to develop the project is approached in its functional, structural and formal whole, reducing the degree of uncertainty.

The work in the workshop will be done in various stages:

- A first called understanding the subject and analyzing the program and the context.
- The second stage is an enunciation of the project, through a presentation of the intentions, a materialization of the ideas…

Evaluation method:
100% Continuous Control

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, 1999.
Zevi B,*Learn to see architecture*, ed. de Minuit, 1959.

Semester 5	(Return to table)
Teaching unit	**UEF 5**
Matter	**Project Theory 5**
Coefficient	**2**
Credit	**2**

Teaching objectives:
The third year of the course constitutes the completion of a training process sanctioned by the award of the license. Its aim will be to synthesize a sum of knowledge acquired in terms of architectural knowledge and know-how.

Its fundamental objective will be oriented towards teaching focused on access to methodological design tools and their mastery in the practice of architectural projects.

The theme as an educational support includes, in addition to the "object", the urban dimension as an objective constraint to any prior projection. The relevance will be located in the "contextualization" of the "object" and the dialectic that it will maintain with its environment; impact, integration, scale, accessibility…

Recommended prior knowledge:
Project theory 1, 2, 3 & 4 / Project workshop 1, 2, 3 & 4 / HCA 1, 2, 3 & 4

Content of the material:
- The concept of architectural project.
- Urban and architectural analysis parameters: historical, morphological, functional, landscape.
- Comparative analysis of contemporary and historical projects (context of implementation, program, genesis).
- Program analysis.
- Different conceptual approaches.

Evaluation method:
100% Review

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, Paris, 1999.
ZEVI B,*Learn to see architecture*, ed. de Minuit, 1959.
B. Evers, C. Thoenes, (2011),*Theory of architecture, from the renaissance to the present day*, Taschen, Cologne.

Semester 5	(Return to table)
Teaching unit	**UEF 5**
Matter	**Critical History of Architecture 5**
Coefficient	**4**
Credit	**4**

Teaching objectives

The aim is to enable the student to classify, by their style and typology, architectural testimonies and forms of expression and to introduce them to the interpretation of architecture as reflections of socio-cultural interactions. The subject must be taught in such a way as to promote and develop a spirit of critical analysis of the entire built environment in the student.

Recommended prior knowledge

Critical history of architecture 1, 2, 3 and 4.
General culture.

Content of the subject

- The notion of style in architecture.
- The foundations of the classical renaissance and the birth of modern thought.
- Mannerist and baroque alternative.
- Neo-classicism in architecture.
- Industrial revolution and illuminism in architecture.
- Historicism and eclecticism.
- Avant-garde architecture (art nouveau, Chicago school, etc.).

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam.**(60% Examination, 40% Continuous assessment)**

References

BENEVOLO, L.(1988),*History of modern architecture*, Volume 1 and 2, Paris, Dunod.
BENEVOLO, L.(1983),*History of the city*, Marseille, Éditions Parenthesis.
CHOAY, F.(1965),*Urban planning, utopias and realities*, Paris, the Seuil.
f.CONTI, MC GOZZOLI, (1998) Knowing art, Roman, Gothic, Baroque, Renaissance, Comptoir du Livre, Paris.
OVEN, M. (2012), Critical history of architecture, Algiers, OPU.
GIEDION, S.(2004), Space, Time, Architecture, Paris, Denoël.
ZEVI, B.(1959),*Learn to see architecture*, Paris, Éditons de Minuit.
ZEVI, B.(2015),*The modern language of architecture*, Marseille, Parentheses.
B. EVERS, C. THOENES, (2011),*Theory of architecture, from the renaissance to the present day*, Taschen, Cologne.

Semester 5	(Return to table)
Teaching unit	**EMU 5**
Matter	**Introduction to urban planning**
Coefficient	**1**
Credit	**2**

Subject objectives

Equip the student with a body of historical and theoretical knowledge capable of allowing him to draw from it and construct the references necessary for any discourse or intervention on the urban.

Content of the subject

The first part will be devoted to an understanding of concepts and notions about the city, history of the city, town planning and urbanization according to a theoretical approach: introduction to town planning, definition of the city according to disciplines, etc.

The second part, for its part, will focus on the city in relation to urban planning and questions on the realities of contemporary urban planning and the multiple crises of the city. Also the student is called upon to familiarize himself and understand that town planning is not only a change of scale in relation to architecture, but also is above all to confront very complex realities and the problems of the city are technical, land, economic and socio-political. Environmental concerns add to this complexity.

The third part of this subject will present the founding theories of town planning:

Expose in their contexts the main currents of thought, movements of ideas (of the last two centuries) and the techniques which have governed the constitution of our current territories and urban fabrics

Acquire approaches and develop analytical and critical skills regarding urban interventions and the theories associated with them. The final objective of this part is to simply explain to students that the instruments and tools which they will one day have to use often refer to theoretical, ideological and political considerations on the territory and urban space.

Evaluation method:

100% Review

Bibliographic references:

Lewis MUNFORD The city through history Seuil Paris 1964
Marcel PORTE Introduction to town planning and Pierre LAVEDAN, all the works are important
Camillo SITTE the art of building cities l'Equerre Paris 1980
Raymond UNWIN Practical studies of city plans Parentheses 2012
Alain CHARRE Art and urban planning PUF 1983
Françoise CHOAY Urban planning, utopias and realities Seuil 1965, The rule and the model, Seuil 1980
Howard EBENEZER The garden cities of tomorrow Dunod 1969
Le Corbusier The charter of Athens Seuil 1971, Urban planning Collection EN 1992, Way of thinking about urban planning 1966
Leonardo BENEVELO History of the city Parentheses 1983
Aldo ROSSI The architecture of the city L'Equerre 1984
Paul CLAVAL The logic of cities Litec 1981
Pierre MERLIN Urban planning techniques PUF 1995, Urban planning PUF 2007
Marcel RONCAYLO Readings of cities, form and time, Parentheses 2002, The city and its territories Gallimard 1990
Jean PAUL LACAZE Urban planning methods PUF 1997, Introduction to urban planning Aube 1996, Renewing urban planning P&CHAUSSEES 2000
ASHER, A. (2010), The new principles of urban planning (+ glossary of the plural city), Paris, Les éditions de l'aube.
SECCHI, B.(2009), The city of the twentieth century, Paris, Editions Recherches.

Semester 5	(Return to table)
Teaching unit	**EMU 5**
Matter	**Spatial planning and development 1**
Coefficient	**2**
Credit	**3**

Subject objectives*:*
Urban planning is not only the art of organizing space, but also the art of organizing "living Together" in the urban environment. As a result, the act of planning, which draws its strength from a legal basis and the rules resulting from a prior planning act and which involves a multitude of actors, also requires knowledge of the territory as well as that of the methods of its organization and the means of its implementation. Mastery of the urban in its complexity implies in-depth teaching of town planning practices to architects, the first artisans of urban project management in Algeria. The teaching provided within the "Spatial planning and development" unit aims to give students the ability to:

- to analyze and understand space at its different scales
- to learn about territorial and urban planning methods and techniques
- to know how to read and use town planning documents
- to design a development project for an urban space

The first semester is essentially devoted to an in-depth approach to the scale of a territory.

Content of the material:
Practical in an urban planning workshop.
I. Introduction to understanding interventions on territory:
1. The notions of planning and spatial development.
2. Planning models (strategic, tactical, operational)
3. Development scales, territorial divisions and the notion of the development perimeter.
4. Action strategies on the territory and in the urban area.
5. The logic of actors and city policy.
II. Town planning documents:
1. Multi-scale reading of space (methods and objectives)
2. Qualitative and quantitative diagnosis and programming
3. The concept of town planning requirements and town planning documents (specifications, conservation and development plans, protection plans, development plans)
4The actors and means of implementing the development project.

Evaluation method:
100% Continuous Control

References*(books and handouts, websites, etc.)*
CHALINE C., City policies, What do I know?, PUF Paris 2000
SAIDOUNI M., Introductory elements to town planning, Casbah, Algiers 2000
RONCAYOLO M., The city and its territories, Gallimard, Paris 1990
MERLIN P., Urban planning techniques, Que sais-je?, PUF, Paris 1995
LAMIZET B., SANSON P., The languages of the city, Parenthesis, Marseille 1997
MANGIN D., PANERAI P., Urban project, Parentheses, Marseille 1999

INGALLINA P., The urban project, What do I know?, PUF, Paris 2001
PANERAI P., DEPAULE JC, DEMORGON M., Urban analysis, Parentheses, Marseille 1999
RIBOULET P., Eleven lessons on urban composition, ENPC Press, Paris 1998
BERQUE A., Median, from middle to landscapes, Reclus, Montpellier 1990
PINON P., Reading and composing public space, MAU, STU, Geneva 1994
LABORDE P., Urban spaces in the world, Nathan, Paris 1996
MERLIN, P.(2010), Dictionary of town planning and development, Paris, PUF.
National Statistical Office(2011), "Urban framework", Statistical collections n° 163, Algiers.
WIEL, M.(1999), The urban transition or the transition from the pedestrian city to the motorized city, Liège, Mardaga.

Recommendations:

This subject constitutes a continuation of the introduction to town planning. This requires greater pedagogical coordination between the two subjects within the unit.

Semester 5	(Return to table)
Teaching unit	**EMU 5**
Matter	**Equipment of frame 1**
Coefficient	**2**
Credit	**4**

Subject objectives

Familiarize the student with the conceptual requirements of the building's interior installations.

Content of the subject

The equipment course does not aim to teach all the theories and methods relating to building equipment in terms of hygrometry (heating, ventilation and air conditioning), sanitary plumbing (drinking water and evacuation). As a whole, the course aims to present the essential theoretical knowledge, the general principles and the material used in the techniques that architects responsible for designing projects, developing specifications and monitoring by coordinating the work must possess. business.

This first semester will develop the following four chapters:

1. Building thermal and heating and air conditioning installations

(Heat transfer phenomena, climatic and thermal aspects, heat balance, different types of heating and air conditioning installations)

2. Building ventilation and mandatory technical ducts

3. Gas installations and technical architectural design requirements

4- Protection of the building against fire

Evaluation method

60% Examination, 40% Continuous assessment

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 5	(Return to table)
Teaching unit	**UET 5**
Matter	**Structure 1**
Coefficient	**2**
Credit	**2**

Subject objectives*:*

This course introduces students to the principles and tools of designing structures intended to be integrated into architectural projects. It explores the capacity of structure to enrich architecture, considering structure as an integral part of architecture and not as a purely technical component.

- Understanding of the principles of structure as a whole and its mechanical behavior in the face of
- different requests.
- Introduction to calculations of reinforced concrete structures.
- introduction to the types of structure and establish a close link with the workshop project

The structural subject must aim to define the different structures likely to integrate the conceptual activity of the project. It's important to :

- define the structures / identify different types / define the different areas of use and application of the different structures studied.

Content of the subject

This semester's program aims to address the main principles of behavior of the building structure and the techniques for prior calculation of its sizing. The following chapters will be developed

- The relationship of structure with architecture
- Fundamental architectural requirements of a structure (stability, resistance, rigidity, etc.)
- Actions and requests
- The notion of scope and form in structures
- Concrete and steel reinforcement seen from the site control and monitoring side.
- Limit state calculations:
    - Actions and requests / Action combinations / Ties, Compressed posts
    - Deflected and shear beams / Shallow and deep foundations.
    - Algerian Seismic Rules and their impact on the design of the building structure.

Evaluation method

60% Examination, 40% Continuous assessment

References

*Dynamic calculation of structures,*Capra A., Davidovici V., Eyrolles, Paris 1984
*Build seismic,*Zacek M., Parentheses 1996
*RPA Algiers*2003
-Architectural Structures Edwardo Torroja
-How is it holding up? Mario Salvadori
-How does it happen? Matthys Levy and Mario Salvadori
-Structure as architecture by Andrew W Charleson
-The art of structures, A Muttoni
-Architectural Structures for Engineers and Architects by Philip Garriso

Semester 5	(Return to table)
Teaching unit	**UET 5**
Matter	**Modeling and simulation (BIM) 1**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

Introduction and initiation to BIM technology. Presentation of the particularity of this technology through the establishment of exchanges between the different disciplines taught in order to simulate the project produced in the workshop with the different BIM-oriented simulation software.

Content of the subject

Presentation of the history and context of the appearance of BIM (IFC, IAI)
Choice of BIM-oriented modeling software, preferably among software belonging to the same suite as the software covered in the CAD subject (so that the student perceives the difference between the two types of modeling)

Identification of the different types of simulations that will be carried out during the next semester.

Depending on the type of simulation chosen, identification of the information necessary for the construction of the digital model which will be built and simulated during the following semester.

Evaluation method

100% Review

References

to be defined according to each teacher and each software taught

recommendation :
It is recommended that one 3-hour tutorial be organized per fortnight (every 2 weeks).
it is recommended to limit the size of the modeled and simulated project

Semester 6	(Return to table)
Teaching unit	**UEF 6**
Matter	**Project workshop 6**
Coefficient	**6**
Credit	**12**

Teaching objectives:
The exercise will be an extension of the initiatory phase of the previous semester and will seek to capitalize on the acquired knowledge. It will focus on the personalization of the methodological approach around a complex and more elaborate problem (large-scale urban project). In addition to technical considerations, the aesthetic and semiotic dimensions must be approached in order to shape the image of the projected object.

Recommended prior knowledge
Project Workshop 1 to 5
Project theory 1 to 5
HCA 1 to 5

Content of the material:
The content is structured around the following axes:

- Deepening the theme, analysis of the functional specificities of a neighborhood facility planned in the project (analysis of examples: conditions of location, composition, accessibility, security, functionality, comfort, architectural formalization, construction techniques adapted, materials)

- Architectural programming of the planned equipment

- Equipment design (sketch and preliminary draft)

The scales covered will be those of the sketch and that of the preliminary project. At this stage, the design of the project requires making technological choices and implementation of the project (structure, materials, etc.). To do this, the workshops are supervised by the collective of architectural teachers assisted by engineers.

Evaluation method:
100% Continuous Control

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, Paris, 1999.
ZEVI B,*Learn to see architecture*, ed. de Minuit, 1959.

Semester 6	(Return to table)
Teaching unit	**UEF 6**
Matter	**Project Theory 6**
Coefficient	**2**
Credit	**2**

Teaching objectives:
Acquisition of methodological design tools remain unchanged

Favor the creative and didactic aspect, visualize the project in its 3rd dimension, use various means of communication.

Recommended prior knowledge:
Project theory 1 to 5
Project Workshop 1 to 5
HCA 1 to 5

Content of the material:

- Use of the sketch and the model as a means of expression and visualization of the object in order to reduce the uncertainties linked to the project.
- Targeted bibliographic support.
- Morphological study of the essential elements of form and space.
- Principles and elements of architectural composition, types of spatial organization.
- Notions on the elements of architectural design.
- Qualification of the place, articulation of the project to the place.

Evaluation method:
100% Review

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, Paris, 1999.
ZEVI B,*Learn to see architecture*, ed. de Minuit, 1959.

Semester 6	(Return to table)
Teaching unit	**UEF 6**
Matter	**Critical History of Architecture 6**
Coefficient	**4**
Credit	**4**

Teaching objectives

It is a question of continuing the analysis of the influence of the context and of the various socio-economic facts on urban and architectural production. It is also about acquiring the methodological instruments necessary for reading architectural language and forming critical judgment.

Recommended prior knowledge

Critical history of architecture 5.
General culture.

Content of the subject

- The new urban visions of the 19th century (Haussmann, Cerda, etc.).
- The formation of the modern movement (Bauhaus, Le Corbusier, etc.).
- The CIAMs.
- The crisis of modernity and the appearance of post-modernism.
- Current trends (Deconstructivism, Neomodernism, etc.).
- The urban and architectural utopias of the future.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam.**(60% Examination, 40% Continuous assessment)**

References

BENEVOLO, L.(1988),*History of modern architecture*, Volumes 3 and 4, Paris, Dunod.
FRAMPTON, K.(1985),*Modern Architecture, a critical history*, Paris, Éditions Philippe Sers.
JENKS, C.(1977),*Modern movements in architecture*, Brussels, Mardaga.
NORBERG-SCHULZ, C.(1981), Genius Loci, Brussels, Pierre Mardaga.
NORBERG-SCHULZ, C.(1988),*Logical System of Architecture*, Brussels, Pierre Mardaga.
NORBERG-SCHULZ, C.(1997), Meaning in Western Architecture, Brussels, Pierre Mardaga.
PANERAI, P., CASTEX, J., DEPAULE, JC.(1997), Urban forms, from the block to the bar, Marseille, Parentheses.
RAGON, M.(1991), World history of modern architecture and urban planning (3 volumes), Paris, Seuil.
ROSSI, A.(1981), Architecture of the city, Paris, L'Équerre.
ROWE, C., KOETTER, F.(1993), Collage City, Paris, Center Georges Pompidou.
VON MEISS, P.(1986),*From form to place. An Introduction to the Study of Architecture*, Lausanne, PPUR.

Semester 6	(Return to table)
Teaching unit	**EMU 6**
Matter	**Spatial planning and development 2**
Coefficient	**2**
Credit	**3**

Subject objectives*:*
The second semester is devoted to deepening the local scale of approach (communal, district or part of the city), its urban policies, development actions and its planning instruments and tools, from the perspective of various actor logics. This program prepares students to approach the notion of complex urban projects in depth in a fourth-year project workshop.

Content of the subject
The municipality and local planning instruments:
1. Urban analysis (methods and objectives):
    - analysis of historical development
    - analyzes of the existing state (spatial and a-spatial)
    - prospective analyzes (potentialities/assets, weaknesses/threats)
    - strategic analyzes (multi-criteria) and the construction of development scenarios
2. The concept of diagnosis and terms of reference
3. Qualitative and quantitative planning programming and the notion of special studies:
    - technical-economic studies
    - impact, feasibility and profitability studies
4. Development actions:
    - in the context of urban renewal
    - as part of major urban projects (university campuses, hospital centers, amusement parks, tourist parks, activity zones, communication hubs, new towns, etc.)
5. Legal tools for urban planning in Algeria (legislative and regulatory)
6. Urban planning actors and procedures.

Example exercise:
Reading of regulatory planning instruments (PDAU, POS) urban analysis: social, economic, urban (built, unbuilt, networks) natural environment (definitions, environmental reading parameters, landscape reading parameters) notions of ownership and land control
Examples of major urban projects

Evaluation method:
100% Continuous Control

References(books and handouts, websites, etc.).
CHALINE C., City policies, What do I know?, PUF Paris 2000
SAIDOUNI M., Introductory elements to town planning, Casbah, Algiers 2000
RONCAYOLO M., The city and its territories, Gallimard, Paris 1990
MERLIN P., Urban planning techniques, Que sais-je?, PUF, Paris 1995
MANGIN D., PANERAI P., Urban project, Parentheses, Marseille 1999
INGALLINA P., The urban project, What do I know?, PUF, Paris 2001

PANERAI P., DEPAULE JC, DEMORGON M., Urban analysis, Marseille 1999
BERQUE A., Median, from middle to landscapes, Reclus, Montpellier 1990
LABORDE P., Urban spaces in the world, Nathan, Paris 1996
GENESTIER PF, Towards a new urbanism. How to build the city? Paris 1996
LYNCH K., See and plan, Dunod, Paris 1982
MOORE R., The Ecology of a Neighborhood Playground: Implications for Planning, Design and Management, DLA, University of California, Berkeley 1973
MERLIN, P.(2010), Dictionary of town planning and development, Paris, PUF.
National Statistical Office(2011), "Urban framework", Statistical collections n° 163, Algiers.
WIEL, M.(1999), The urban transition or the transition from the pedestrian city to the motorized city, Liège, Mardaga.

Legal texts and regulatory instruments for town planning in Algeria

Semester 6	(Return to table)
Teaching unit	**EMU 6**
Matter	**Tools and instruments for development and town planning in Algeria**
Coefficient	**1**
Credit	**2**

Subject objectives*:*
The objective of the subject is to introduce the student to space management, its instrumental aspect, its actors and its impact on the territory in Algeria.
Content of the material:
INTRODUCTION :general information on the emergence of the city in the Algerian space and the sustained demo-urban growth since independence
THE FOUNDATIONS OF TERRITORIAL AND URBAN LEGISLATION

- The legacy of spatial organization and the aftereffects of colonization in space
- The overhaul of post-independence territorial organization and the major changes 1974-1990
- New instruments and new actors in spatial organization from 1990

DECISION-MAKING PROCESSES

- The main orientations of land use planning
- The mechanisms of territorial and urban planning
- Theoretical roles and real roles of local authorities (Wilaya, Commune)

POLICY AND PROCEDURES

- The development of land use plans and town planning plans and their content
- 10 02 of 06 29, 2010 relating to the SNAT, content and limits
- Urban planning instruments
- General rules for development and town planning, the usefulness of a town planning code
- Town planning acts in Algeria: town planning certificate, permitotir, certificate of subdivision, building permit, certificate of conformity, demolition permit

Evaluation method
100% Review

Reference
Decree No. 63-189of May 16, 63, relating to the territorial reorganization of the communes.
Law No. 84-09of February 4, 1984, relating to the territorial organization of the country
Law n°87-03of January 27, 1987 relating to regional planning.
Law No. 90-25of November 18, 90 relating to land orientation.
Law No. 90-29of December 1, 90 relating to development and town planning.
Law No. 01-20of December 12, 2001 relating to the planning and sustainable development of the territory
Law No. 06-06of February 20, 2006 establishing the city's orientation law;
Law No. 10-02of June 29, 2010 approving the national land use planning plan.
Ordinance No. 74-69of July 2, 1974, relating to the overhaul of the territorial organization of the wilayas.

Semester 6	(Return to table)
Teaching unit	**EMU 6**
Matter	**Equipment of frame 2**
Coefficient	**2**
Credit	**4**

Subject objectives

Familiarize the student with the conceptual requirements of the building's interior installations.

Content of the subject

The second semester is devoted to mastering the problem of supply and distribution of drinking water in buildings and sanitary plumbing installations. The following chapters will be developed:

1. Drinking water supply systems
2. Building sanitation systems
3.Sanitary plumbing (pipes, tanks, water tanks, water towers, sizing, construction standards and rules)
4. Special processes(renewable energies)

Evaluation method

60% Examination, 40% Continuous assessment

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 6	(Return to table)
Teaching unit	**UET 6**
Matter	**Structure 2**
Coefficient	**2**
Credit	**2**

Subject objectives*:*

Analysis and understanding of the importance of the choice of structure in the design of the architectural project.
This subject must have a close link with the workshop project
The structural subject must aim to define the different structures likely to integrate the conceptual activity of the project. It's important to :

- define structures
- identify different types
- to define the different areas of use and application of the different structures studied

Content of the subject

1. Introduction to the different medium and long span structural systems.
2. Introduction to the mechanical behavior of systems and the associated constructive provisions (triangulation, prestressing, three-dimensional, mesh, shells, membranes, etc.
3. Introduction to the use of structure software.
4. Analysis of the structural choices of major projects around the world (Rodgers, Calatrava, Pei, Andreu, etc.) .
5. Types of structures (Horizontal systems, vertical systems)
6.Large span structures (compressed arc-based structures, tensile cable-based structures, etc.)
7.Lattice-based spatial structures

Evaluation method

60% Examination, 40% Continuous assessment

References

Structure and architecture, Salvadori M., Heller R., Eyrolles, Paris 1976
The representation of constructive structures, Gheorghiu A., Dragomir V., Eyrolles, Paris 1968
*Structures of modern architecture,*Siegel C., Verlag, Munich 1970

Semester 6	(Return to table)
Teaching unit	**UET 6**
Matter	**Modeling and simulation 2**
Coefficient	**1**
Credit	**1**

Subject objectives*:*
Application of the different commands learned during the previous semester to model a project or part of the architectural project designed in the workshop (preferably a project produced in the workshop during the semester).

Content of the subject
Construction of the digital model of the project produced in the workshop and identification of the different user profiles who will intervene on this model.

(The user profiles must be defined at the start of the semester with the teachers participating in the exchange to set up the various simulations which will be carried out at the end of the semester and introduce the notion of project management).

Evaluation method
100% Review

References

To be defined according to each teacher and each software taught

Recommendation :
It is recommended that one 3-hour tutorial be organized per fortnight (every 2 weeks).
It is recommended to limit the size of the modeled and simulated project.

IV. Agreements / Conventions

STANDARD LETTER OF INTENT

(In case of license co-sponsored by another academic establishment)

(Official paper on the header of the university establishment concerned)

Object : Approval of co-sponsorship of the license entitled “Architecture”

The university (or university center) hereby declares to co-sponsor the license mentioned above throughout the license authorization period.

To this end, the university (or university center) will assist this project by:

- Giving his point of view in the development and updating of teaching programs,
- Participating in seminars organized for this purpose,
- By participating in defense juries,
- By working to pool human and material resources.

SIGNATURE OF THE LEGALLY AUTHORIZED PERSON:

FUNCTION :

DATE :

STANDARD LETTER OF INTENT

(If licensed in collaboration with a user sector company)

(Official company letterhead)

OBJECT : Approval of the project to launch a degree course entitled “Architecture”

Provided to:

The company hereby declares its willingness to demonstrate its support for this training as a potential user of the product.

To this end, we confirm our support for this project and our role will consist of:

Give our point of view in the development and updating of educational programs,
Participate in seminars organized for this purpose,
Participate in defense juries,
Facilitate as much as possible the reception of interns either as part of end-of-study theses or as part of tutored projects.

The means necessary to carry out the tasks incumbent on us to achieve these objectives will be implemented on a material and human level.

Mr. (or Madam)*…….is designated as external coordinator of this project.

SIGNATURE OF THE LEGALLY AUTHORIZED PERSON:

FUNCTION :

DATE :

OFFICIAL STAMP OR COMPANY SEAL

V. Brief CV of the teaching team mobilized for the specialty

(Internal and external / according to attached model)

Brief CV

Name and first name: BELAKEHAL Azeddine

Date and place of birth : April 10, 1967 in Biskra

Email and telephone: a.belakehal@biskra-univ.dz/ 0772944222

Grade : Teacher

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- Architect, Institute of Architecture of Biskra, June 1991
- Master's degree in Architecture with very honorable mention, Option Architecture of arid and semi-arid environments, Institute of Architecture of Biskra, June 1996.
- Doctorate in Sciences with very honorable mention, architecture sector, Department of Architecture, Mohamed KHIDER University, Biskra, January 2007.
- University accreditation, Department of Architecture, Mohamed KHIDER University, Biskra, October 2009.

Professional teaching skills (subjects taught in graduation)

- **'**Project theory' (2nd Year License): since 2009-2010.
- 'Project' (2nd Year License): since 2009-2010.
- 'Ambiances' (2nd Year Master Urban and Architectural Heritage in the Sahara): since 2013-2014.
- Morphological analysis' (2nd Year Master Urban and Architectural Heritage in the Sahara): 2016-2017.

Brief CV

Name and first name: ZEMMOURI Noureddine

Date and place of birth : April 22, 1960 Oued Taga

Email and telephone: zemmouri.n@univ-biskra.dz Tel:0550856373

Grade : Teacher

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- State Architect Diploma June 1984 University of Constantine.
- Mphil Architecture and Building Engineering November 1987 University of Bath England.
- State doctorate in Architecture October 2005 University of Sétif.

Professional teaching skills (subjects taught, etc.)

- Project theory 1 & 2.
- Architecture and Urban Planning Modeling 1 &2.
- CAD.
- Urban planning.
- 1st year Architecture Workshop.
- 3rd Year Architecture Workshop.

Brief CV

Name and first name: BOUZAHER Soumia

Date and place of birth :23-10-1975 Biskra

Email and telephone:Lalouanisoumia@yahoo.fr/ telephone: 0662177954

Grade : Lecturer “A”

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- **July 1992**Bachelor of Natural Science.
- **September 1999.**Architect diploma.
- **December 2004**obtaining a Master's degree in architecture under the title "The elements of visual identification and spatial orientation in the street"
- **March 2015**Obtaining a “state doctor” diploma. under the title “Sustainable development through an ecotourism project; Case of the ksour of the Ziban micro region. The recovery of an ecotourism circuit. » at the Department of Architecture of Mohamed Khider Biskra University.
- **December 2016**Obtaining a diploma in “Accreditation to direct university research”. at the Department of Architecture of Mohamed Khider Biskra University.

Professional teaching skills (subjects taught, etc.)

- French terminology Directed Work (1st year classic).
- Workshop (introduction to drawing and architecture) (1st year classic).
- Workshop (analysis, integration and design of habitat) (classic 2nd year).
- Workshop (analysis, design of equipment) (3rd year classic).
- Urban Planning Course + tutorial (5th year classic).
- Workshop (analysis, integration and design of habitat) (2nd year license).
- Workshop (model and architectural survey) (2nd year license).
- Urban planning and spatial development (3rd year license).
- History of Cities Course + tutorial (1st year Master, urban project option).
- Urban ecology TD (1st year Master, urban project option).
- The seminar subject (2nd year Master, urban project option).

Brief CV

Name and first name: SELATNIA Khaled

Date and place of birth :08/19/1981 in Souk Ahras

Email and telephone:ar_kaled@yahoo.fr/ 0556 83 81 21

Grade : Lecturer “A”

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- State engineering diploma in architecture (architect), from Mohamed Kheider University - Biskra, specialty: architecture, promotion: June 2005. Honors.
- Master's degree in Architecture. Option: human settlements in arid and semi-arid zones, faculty of science and technology, Mohamed Kheider Biskra University, year 2009/2011. Honors .
- Doctoral degree in Architecture, Option: human settlements in arid and semi-arid zones, faculty of science and technology, Mohamed Kheider University, Biskra.2015. Very honorable mention.
- Habilitation led research work, Mohamed Kheider University, Biskra. December 2016.

Professional teaching skills (subjects taught, etc.)

- Architectural project 1st year LMD
- Architectural project 2nd year LMD
- Models and 2nd year LMD report
- Urban planning and spatial planning 3rd year LMD
- Urban planning 4th year classic.
- Supervision of more than ten state architects.
- Supervision of fifteen Master theses, option: Urban project.

Brief CV

Name and first name: ZERROUG Abdelhamid

Date and place of birth :07/03/1960 in Ain-Touta

Email and telephone:zerroug60@gmail.com Such ; 0671605900

Grade : Lecturer “A”

Establishment or institution of connection: Department of Mathematics, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- **Diploma .Study .Sup (DES)**“Differential geometry” 83/84 University of Batna
- **Diploma.Study. Deepened (DEA) «**Mathematics applied to economic sciences » 1985/86 University of Dauphine PARIS 9.
- **Magisterium.**“Mathematical bio” University of Renet separates PARIS 5 and University of Constantine 1986/1990.
- **Ph.D**“Mathematical bio. » University of Biskra.1995/2010.

Professional teaching skills (subjects taught, etc.)

- Lecturer in Maths……Ecole de Sèvre France from 1987/1988
- Research Directorfrom 2002/2004 Image synthesis image analysis mathematics applied to imaging; Modeling and deformation of three-dimensional objects project code .B*0701/04/02
- Teaching activities:
- Topology – Numerical analysis-Algebra
- Trainee Assistant Master: from 09/14/1988 to 10/13/1990, Full-time Assistant Master: from 10/14/1990 to 11/23/1992, Course Assistant Master: from 11/24/1992 to 07/15/ 2010, Lecturer “A”: since 07/15/2010; Member of the Doctoral Students Educational Committee, academic year 2012/2013, 2013/2014 and 2014/2015.

Name and first name: SEKHRI Adel

Date and place of birth :14November1979 in M'chedallah (Bouira)

Email and telephone:sekhri.adel@yahoo.fr/ 0661147956

Grade : Class “A” Assistant Master

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- **June 1997:**Baccalaureate: Natural Science Series, High School: Kérouani - SETIF.
- **December 2002:**Diploma of State Architect,Department of Architecture, Ferhat Abbas University, Sétif.
- **June 2005:** Magister Diploma in Architecture, Option: architecture, history and society, mention “GOOD”, Department of Architecture, Ferhat Abbas University, Sétif.

Professional teaching skills (subjects taught, etc.)

- **Workshop**– 1st year architecture (Classical System).
- **Workshop**– 2nd year architecture (Classical System).
- **Workshop**– 3rd year architecture (Classical System).
- **Workshop**– 4th year architecture (Classical System).
- **Workshop**– 5th year architecture (Classical System).
- **Codified drawing of architecture 1**& 2 (Semester 1 & 2) – 1st year Architecture license (LMD System).
- **Discovery of architectural tools**(Semester 1) / Introduction to the project (Semester 2) – 1st year Architecture license (LMD System).
- **Project 1**& 2 (Semester 1 & 2) – 1st year Architecture license (LMD System).
- **Project 1 + Memory** (Semester 3) / Project 2 + Dissertation (Semester 4) – 2nd year Master, Specialty: Urban and Architectural Heritage in the Sahara (M2 PUAS).

Annex :

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'ENSEIGNEMENT SUPERIEUR
ET DE LA RECHERCHE SCIENTIFIQUE

Arrêté n°506 du - 4 SEP. 2011

portant habilitation de licences ouvertes au titre de l'année universitaire 2011-2012
à l'université de Biskra

Le Ministre de l'Enseignement Supérieur et de la Recherche Scientifique,

- Vu la loi n°99-05 du 18 Dhou El Hidja 1419 correspondant au 4 avril 1999, modifiée et complétée, portant loi d'orientation sur l'enseignement supérieur,
- Vu le décret présidentiel n° 10-149 du 14 Joumada Ethania 1431 correspondant au 28 mai 2010, portant nomination des membres du Gouvernement,
- Vu le décret exécutif n°94-260 du 19 Rabie El Aouel 1415 correspondant au 27 Août 1994, fixant les attributions du ministre de l'enseignement supérieur et de la recherche scientifique,
- Vu le décret exécutif n°08-265 du 17 Chaâbane 1429 correspondant au 19 août 2008 portant régime des études en vue de l'obtention du diplôme de licence, du diplôme de master et du diplôme de doctorat,
- Vu le décret exécutif n°98-219 du 13 Rabie El Aouel 1419 correspondant au 7 juillet 1998, modifié et complété, portant création de l'université de Biskra,
- Vu l'arrêté n°129 du 4 juin 2005 portant création, composition, attributions et fonctionnement de la commission nationale d'habilitation,
- Vu le Procès Verbal de la réunion de la Commission Nationale d'Habilitation du 31 mars 2011.

ARRETE

Article 1er : sont habilitées, au titre de l'année universitaire 2011-2012, les licences académiques (A) dispensées à l'université de Biskra conformément à l'annexe du présent arrêté.

Art. 2 : Le Directeur de la Formation Supérieure Graduée et le Recteur de l'université de Biskra sont chargés, chacun en ce qui le concerne, de l'application du présent arrêté qui sera publié au bulletin officiel de l'enseignement supérieur et de la recherche scientifique.

Annexe : Habilitation de Licences Académiques
Université de Biskra
Année universitaire 2011-2012

Domaine	Filière	Spécialité	Type
Sciences et Technologies	Génie électrique	Electronique	A
	Hydraulique	Sciences de l'eau et de l'environnement	A
	Architecture et Urbanisme	Architecture	A
Lettres et Langues Etrangères	Langue Anglaise	Linguistique appliquée	A

VI. Opinions and Visas from Administrative and Consultative Bodies

Title of the License: LICENSE IN ARCHITECTURE

Chef de département + Responsable de l'équipe de domaine
Date et visa 14 MAI 2017 Date et visa د.خالد سلاطنية 14 MAI 2017
Doyen de la faculté (ou Directeur d'institut)
Date et visa : 2017 ماي 14 عميد الكلية أ.د ملاس مكي
P/ Chef d'établissement universitaire
Date et visa أ.د عبدالواحد شالة 14 MAI 2017

VII. Notice and Visa of the Regional Conference

(Only in the final version sent to the MESRS)

VIII. Opinion and Visa from the National Educational Committee of the Domain

(Only in the final version sent to the MESRS)

Pr.BOUCHAREB Abdelouahab
Président du CPND AUMV.

PEOPLE'S DEMOCRATIC REPUBLIC OF ALGERIA

MINISTRY OF HIGHER EDUCATION
AND SCIENTIFIC RESEARCH

Compliance framework

TRAINING OFFER
LMD

ACADEMIC LICENSE

2017 - 2018

Establishment	Faculty / Institute	Department
Mohamed KHIDER University - Biskra	Science and Technology	Architecture

Domain	Sector	Speciality
(Area 14 AUMV) ARCHITECTURE, TOWN PLANNING AND CITY PROFESSIONS	ARCHITECTURE	ARCHITECTURE

الجمهورية الجزائرية الديمقراطية الشعبية

وزارة التعليم العالي والبحث العلمي

نموذج مطابقة

عرض تكوين
ل .م .د

ليسانس أكاديمية

2018-2017

المؤسسة	الكلية/ المعهد	القسم
جامعة محمد خيضر – بسكرة	العلوم و التكنولوجيا	الهندسة المعمارية

الميدان	الفرع	التخصص
(D: 14 AUMV) هندسة معمارية, عمران و مهن المدينة	هندسة معمارية	هندسة معمارية

SUMMARY

I. License identity sheet

1. Training location:

Faculty (or Institute): Science and technology

Department : Architecture

References of the authorization orderof the license (attach copy of the order):
Order No. 506, of September 4, 2011: Academic Year 2011/2012, (see appendix)

2. External partners:

- Other partner establishments:

- Businesses and other socio-economic partners:

Council of the Order of Architects - Biskra

- International partners:

3. Context and objectives of the training

The reform of higher education consists, on an educational level, of establishing an organization of teaching which aims to enable the student:

- To acquire working methods that develop critical thinking and the skills of analysis, synthesis and adaptability.

- To benefit from efficient and appropriate guidance reconciling their wishes with their abilities for better preparation either for working life by optimizing their chances of professional integration, or for the pursuit of university studies.

- Better adaptation of architectural training to continual developments in techniques and technologies.

- A response to the evolving needs of the national and regional socio-economic context.

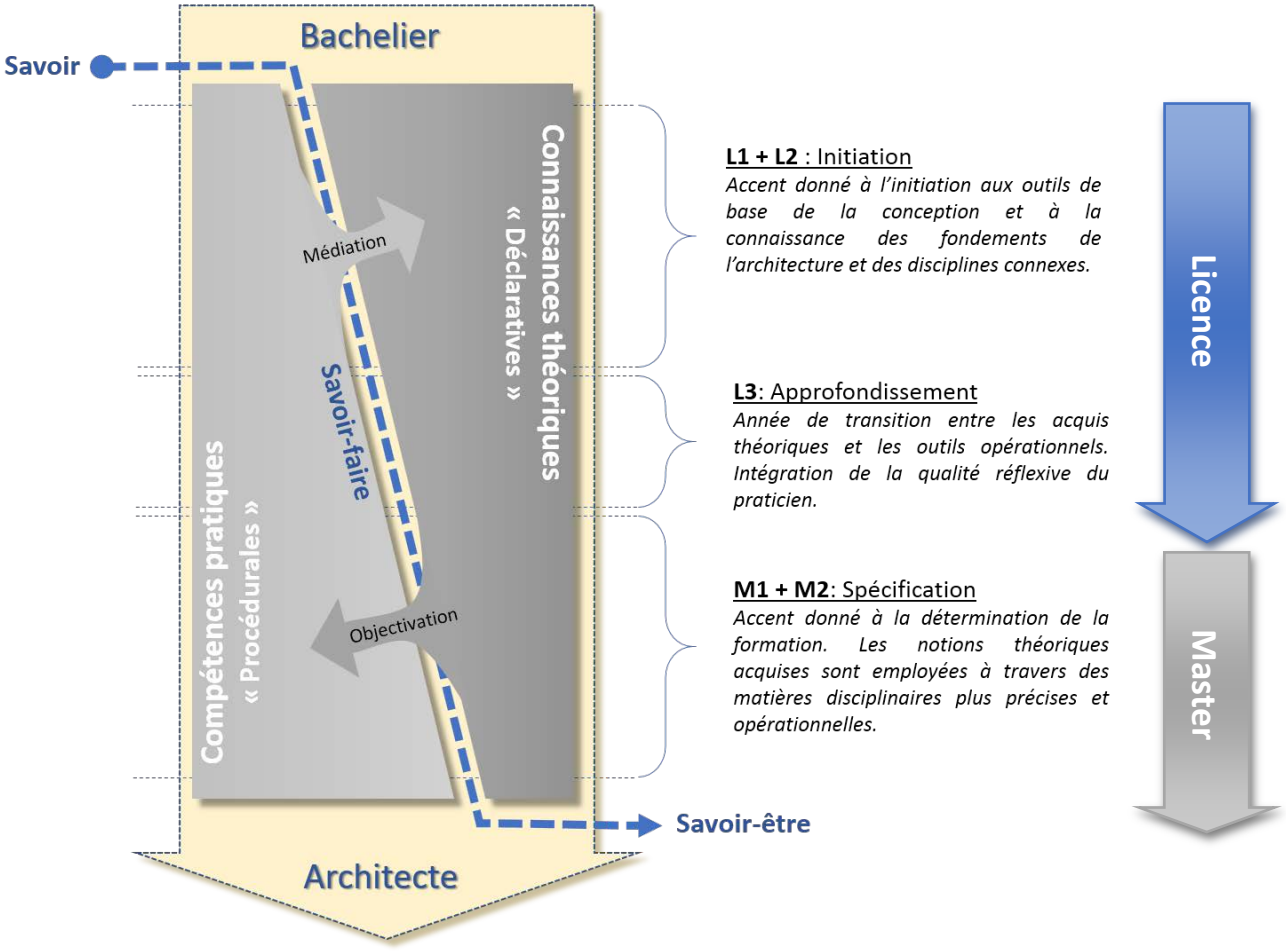
- An adequacy of architectural education in Algeria to universal standards so as to allow more exchanges and mobility.

In fact, it will be a question of “validating” the qualities and skills capable of allowing this future executive to exercise his profession in a responsible and professional manner.

Thus, the training profile prescribed by the national educational committee in the field of “Architecture, Urban Planning and City Professions” tends to prioritize practical qualifications while remaining open and “reflexive”. In fact, if the primary mission of this architect corresponds to the dispositions and abilities to respond appropriately to public orders in his field, he only remains, as a “thinking head”, he is also a producer of knowledge. Thus, the scope of practice of the practitioner can also be increased by predispositions to engage in the field of research.

From this perspective, the license is the level where the student acquires the necessary foundation for the profession. The third year of this training (L3) is a year of validation of the acquisitions and assimilation of theoretical and practical knowledge allowing access to the final level of university training (cycle 2).

This first part of the architect's training through the license constitutes an INITIATION TO ARCHITECTURAL PRACTICE THROUGH DISCOVERY AND DESIGN (MASTERY OF BASIC TOOLS).



The diagram above summarizes the philosophy adopted for the training of architects through the course: License + Master.

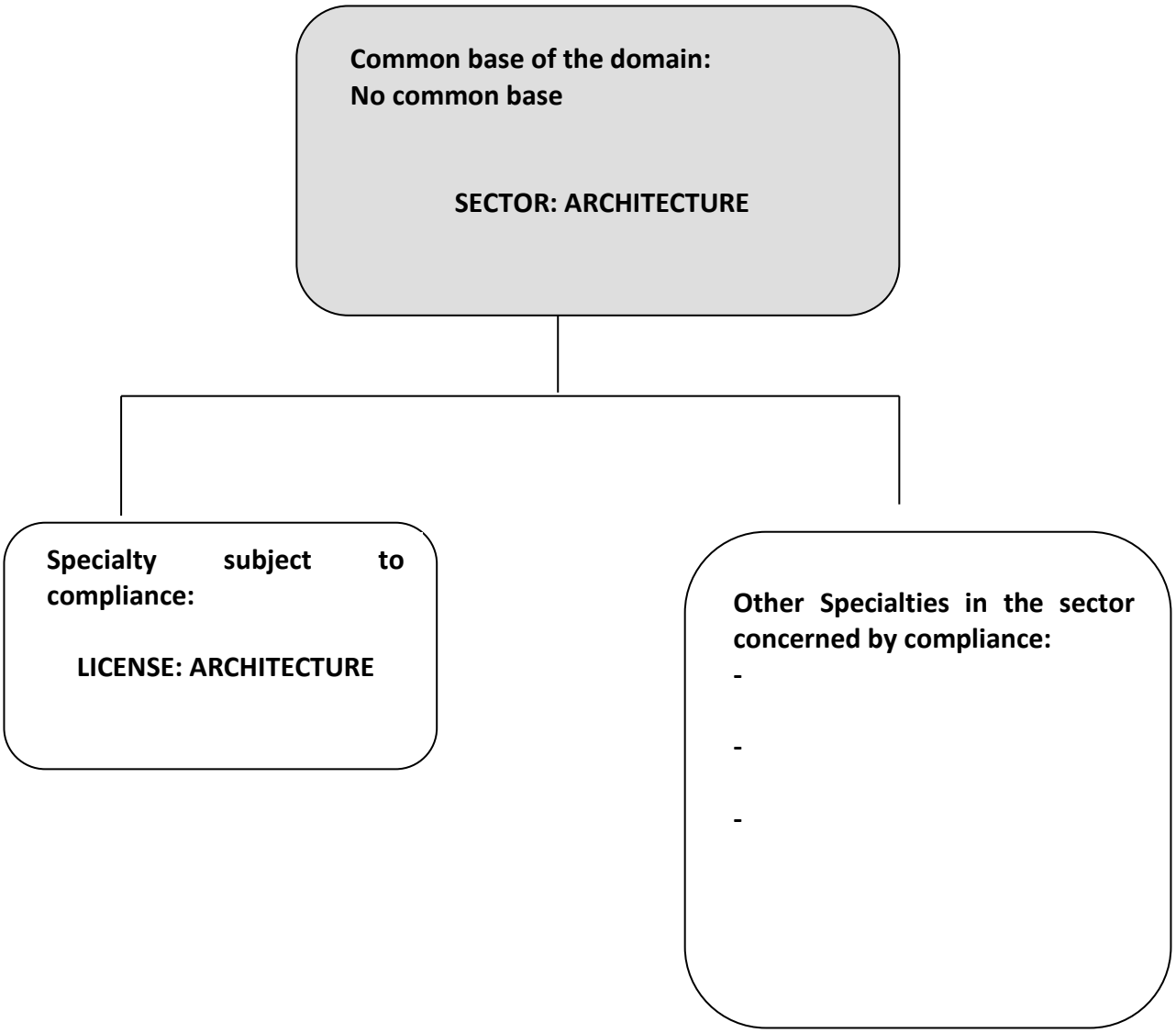
The newly arrived baccalaureate will first have to acquire concrete knowledge through declarative knowledge which will push them to explore new notional fields. A contribution of procedural knowledge will push him to move - through active pedagogy - to conceptualization while using theoretical knowledge.
Practical subjects offer mediation tools for the process of ideation, conceptualization and then projection.

As progress progresses, the trends balance out until, in the third year, they constitute a weighting between procedural and declarative knowledge. This is the place for project-based learning. The student's reflective quality is there. It is manifested by the notion of complex "know-how" which is based on the effective mobilization and combination of a variety of internal and external resources identified by learning situations through the project.

The Master will subsequently constitute a process of specification of architectural practice moving towards the acquisition of a synthetic posture: between knowledge, know-how and know-how.

A. General organization of training: project position

(Mandatory field / If several licenses are offered or already supported at the establishment level / same training team or other training teams / indicate in the following diagram, the position of this project in relation to other courses)



B. Training aims

(Mandatory field / Targeted skills, knowledge acquired at the end of the training - maximum 20 lines)

The academic degree in Architecture is designed as a step towards more complete training in the Architecture sector based on a training base in architecture for obtaining the Academic or Professional Master's degree, and allowing the student to acquire the necessary and sufficient knowledge to become an architect and practice the profession of architect according to the rule of art.

The knowledge acquired will allow students to be autonomous and capable of analysis and synthesis to choose the training profiles which will be offered to them according to their abilities, their baggage, their vocations but also the prospects offered by the employment market. employment to integrate them.

C. Profiles and targeted skills

(Mandatory field/maximum 20 lines):

The knowledge acquired at the end of this training which extends over a period of three years “academic license” constitutes only one step in the training process of the “future architect”. They will allow them to benefit from a theoretical base consisting of the fundamental knowledge necessary for access to the Masters in Architecture which will constitute additional specialized training in various profiles offered within the framework of the Masters in Architecture.
The resulting master's degree offers would allow the construction of professional careers that are more scalable and capable of adapting to the needs and requirements of the market and the international, national and regional context.
Also, the subjects taught in this planned "academic license" training are the basis of specialized training in Architecture but which opens up prospects for horizontal bridges to other para-architectural training and which goes in the direction of LMD training.

D. Regional and national employability potential

(Required Field)

The planned training is not professional but opens the way to other professional training and in particular masters in architecture: at the end of this training in two levels: license + master and enriched by the personal work of the student as well that the confrontation of the real world of work through the internships planned in the two training courses, the student will be a future motivated and evolving executive, responsible and ready for initiatives…. On the local and national market.
In relation to the training itself, this offer of an academic license in architecture is an opportunity to enrich the content of the teaching programs already started as part of the reform and reorganization of architectural teaching in the system. LMD
This teaching is designed to integrate and adapt it to regional and national training profiles in terms of housing, town planning of monuments and historic sites, etc.
Thus, graduates seeking employment will have benefited from training adapted to the needs of the local and national market. The training at the end of this offer also aims at a certain goal, that ofthe qualitative improvement of the built environment in Algeria, protection against major risks, its compliance with local identity uses.

E. Gateways to other specialties

(Required Field)

The cycle of studies in architecture will take place according to the following scheme:

Main route:
Access to training (Bachelor of Architecture: bac+3) is reserved for students oriented by the supervisory Ministry (see the orientation circular issued at each academic year by the Ministry of Higher Education and Scientific Research).
The academic license gives access to the master's degree (without selection or with selection based on qualifications depending on available abilities); at the level of the master's cycle: orientation towards professional master's degree (the majority of students) or academic master's degree (according to specific criteria);

Possible outgoing routes:
After the third year, academic license level,

- Orientation towards the professional or academic Master's degree in Architecture.
- Orientation towards related fields on equivalence and with completion of missing credits.

Possible inbound routes:
Entry into the “Academic License in Architecture” training cycle is reserved for students oriented by the supervisory Ministry (see the orientation circular issued at each academic year by the Ministry of Higher Education and Scientific Research) .

F. Performance indicators expected from training

(Mandatory field / Viability criteria, success rate, employability, graduate monitoring, skills achieved, etc.)

The opportunities for this training could be perceptible at the master's level, because the bachelor's training is intended to be academic but it is the only path to access the Master's degree which could be professional or academic and which allows the student to exercise the profession of architect.

4. Human resources available

A. Supervision capacity: 160 students per year.

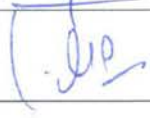
(Expressed in number of students that can be supported)

B. Internal teaching team mobilized for the specialty:

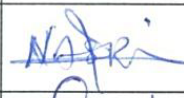
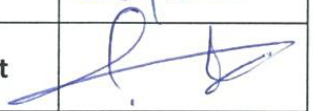
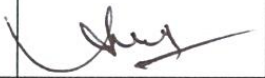
(To be completed and endorsed by the faculty or institute)

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Belakehal Azeddine	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Professeur	Théorie de projet	
Farhi Abdallah	Architecte d'Etat	Doctorat d'Etat	Professeur	Théorie de projet	
Zemouri Noureddine	Architecte d'Etat	Doctorat d'Etat	Professeur	Modélisation et simulation (BIM)	
Bada Yacine	Architecte d'Etat	Doctorat d'Etat	Maître de Conférences 'A'	Théorie de projet	
Benabbas Moussadek	Architecte d'Etat	Doctorat d'Etat	Maître de Conférences 'A'	Atelier de projet	
Bouzaher Soumia	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Introduction à l'urbanisme/Outils et inst d'am et d'urb	
Djelloul Amel	Ingénieur en Génie climatique	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Equipement du bâti	
Slatenia Khaled	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Planification et aménagement spatial	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Sriti leila	Architecte d'Etat	Doctorat en Sciences + Habilitation Universitaire	Maître de Conférences 'A'	Atelier de projet	
Boukhabla Moufida	Architecte d'Etat	Doctorat en Sciences	Maître de Conférences 'B'	Atelier de projet	
Aboudil Rachida	Architecte d'Etat	Magister	Maître Assistant 'A'	Histoire critique de l'architecture	
Alouane Fayçal	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Aoura Ali	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Beddiaf Walid	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Benaissa Nadjette	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Benferhat Mohamed Ladaoui	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Bouhlas Lakhdar	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Boumerzoug Abdelouahab	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Daich safa	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Dakhia Azzedine	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Dali Aomar	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Djebnoune Rachid	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Djenane Moussadek	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Femmam Nadia	Architecte d'Etat	Magister	Maître Assistant 'A'	Planification et aménagement spatial	
Ghanemi Faten	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Gouaref Habib Alrahmane	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Gouizi Yamina	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Hafsi Mustapha	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Hamel Khalissa	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Karkar Houria	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Laouni Ines	Architecte d'Etat	Magister	Maître Assistant 'A'	Dessin et art graphique	
Lebal Noureddine	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Madhoui Meriem	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Magri Ouadjeri Sahar	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Mahaya Chafik	Architecte d'Etat	Magister	Maître Assistant 'A'	Conception assisté par ordinateur	
Makhloufi Soumia	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Medouki mostefa	Architecte d'Etat	Magister	Maître Assistant 'A'	Planification et aménagement spatial	
Meliouh Fouzia	Architecte d'Etat	Magister	Maître Assistant 'A'	Terminologie	
Merad Yacine	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Merzougui Wafia	Architecte d'Etat	Magister	Maître Assistant 'A'	Dessin et art graphique	
Mezerdi Toufik	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Mkihal Khadidja	Architecte d'Etat	Magister	Maître Assistant 'A'	Dessin et art graphique	
Mokrane youssef	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Msellem Houda	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Nasri Manel	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Qaoud Rami	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Rezig Adel	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Rezig Djemoui	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Saadi Mohamed yacine	Architecte d'Etat	Magister	Maître Assistant 'A'	Conception assisté par ordinateur	
Sakhraoui Nacer	Architecte d'Etat	Magister	Maître Assistant 'A'	Terminologie	
Saouli Ahecine Zineddine	Architecte d'Etat	Magister	Maître Assistant 'A'	Histoire critique de l'architecture	
Sebti Moufida	Architecte d'Etat	Magister	Maître Assistant 'A'	Géographie de l'habitat	
Seghirou Belkacem	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Sekhri Adel	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Sekkour Issam	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Tayeb Keltoum	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	

Nom, prénom	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Youcef Kamal	Architecte d'Etat	Magister	Maître Assistant 'A'	Atelier de projet	
Abdou Yamina	Architecte d'Etat	Magister	Maître Assistant 'B'	Histoire critique de l'architecture	
Badache Halima	Architecte d'Etat	Magister	Maître Assistant 'B'	Dessin et art graphique	
Belarbi samia	Architecte d'Etat	Magister	Maître Assistant 'B'	Atelier de projet	
Benchikha Linda	Architecte d'Etat	Magister	Maître Assistant 'B'	Histoire critique de l'architecture	
Boudoukha Ayoub	Architecte d'Etat	Magister	Maître Assistant 'B'	Conception assisté par ordinateur	
Kachef Sarah	Architecte d'Etat	Magister	Maître Assistant 'B'	Planification et aménagement spatial	
Maatalah Mohamed Elhadi	Architecte d'Etat	Magister	Maître Assistant 'B'	Atelier de projet	
Mebarki Rym	Architecte d'Etat	Magister	Maître Assistant 'B'	Dessin et art graphique	
Necira Hakima	Architecte d'Etat	Magister	Maître Assistant 'B'	Analyse spatiale	
Tibermacine Souhila	Architecte d'Etat	Magister	Maître Assistant 'B'	Planification et aménagement spatial	

Visa du département

Visa de la faculté ou de l'institut

C. Equipe pédagogique externe mobilisée pour la spécialité :

(À renseigner et faire viser par la faculté ou l'institut)

Nom, prénom	Etablissement de rattachement	Diplôme graduation	Diplôme de spécialité (Magister, doctorat)	Grade	Matière à enseigner	Emargement
Zerrouk Abdelhamid	Université Mohamed KHIDER Biskra	D.E.S en Géométrie différentielles	Doctorat d'Etat	Maître de Conférences 'A'	Mathématiques	
Midni Chaib Deraa	Université Mohamed KHIDER Biskra	Licence en Sociologie urbaine	Doctorat en Sciences	Maître de Conférences 'B'	Anthropologie de l'espace / de l'habitat	
Gadri Karima	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Technologie des matériaux de construction	
Chabi Samia	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Technologie des matériaux de construction	
Belkacem Mounia	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Résistance des matériaux	
Houara Selma	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Structure	
Attache Salima	Université Mohamed KHIDER Biskra	Ingénieur en Génie Civil	Magister	Maître Assistant 'A'	Structure	

Visa du département

Visa de la faculté ou de l'institut

C. Overall summary of human resources mobilized for the specialty:

Grade	Internal Workforce	External Workforce	Total
Teachers	3	0	**3**
Lecturers (A)	6	1	**7**
Lecturers (B)	1	1	**2**
Assistant Master (A)	45	5	**50**
Assistant Master (B)	12	0	**12**
Other (*)	6	0	**6**
Total	**73**	**7**	**80**

(*) Technical and support staff

5. Material resources specific to the specialty

A. Educational Laboratories and Equipment: Sheet of existing educational equipment for the practical work of the planned training

(1 sheet per laboratory)

Laboratory title: Computing center
Student capacity: 30

No.	Equipment title	Number	observations
01	Graphics station	01	
02	Microcomputers and complements	31	

Laboratory title: Educational laboratory of models, structures and construction materials
Student capacity: 25

No.	Equipment title	Number	observations
01	Support and various tools for making models	30	
02	Various construction and structural experimentation equipment	15	

Laboratory title: Visual Arts Room
Student capacity: 90

No.	Equipment title	Number	observations
01	Tools and workspaces for modeling and painting work	10	

Laboratory title: Physical experiment room
Student capacity: 30

No.	Equipment title	Number	observations
01	Heliodon	01	
02	Wind tunnel	01	
03	Thermohygrometer	01	
04	Lux meter	02	
05	Anemometer	01	

Laboratory title:LACOMOFA (search)
Student capacity: 30

No.	Equipment title	Number	observations
01	Various workstations	40	
02	Documentation center	01	
03	Physical environmental simulation software	03	

B. Internship sites and in-company training:

(See agreements/conventions section):

Training place	Number of students	Training period
DL, DEP, DUC and architectural and town planning offices (private and public)	160	80 hours per student

C. Documentation available at the establishment level specific to the training offered:

(Required Field)

In addition to the titles available in architecture, the library covers the following disciplines relating to architecture:

- Worksin Civil Engineering.
- Works in sociology.
- Works on urban economics.
- Work on environment and ecology.

D. Personal work spaces and ICT available at department and faculty level:

- 28 drawing workshop rooms.
- 26 TD rooms.
- 01 Amphi 300 Seats (courses).
- 01 Amphi 180 Seats (classes).
- 02 Amphis 130 Seats (classes).
- 01 Computer room with a capacity of 31 Microcomputers (for CAD and CAD work).
- Videoconferencing room (Home Cinema, Plasma, rear projectors, DVD player etc.).
- Internet room.
- Specialized documentation center.
- Reprography room.
- Topography Room.

II. Half-yearly organization sheet for specialty teaching

Semester 1:

Unitéd'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF1 (O/P)									
Matière 1: Atelier de projet 1	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 1	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 1	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM1 (O/P)									
Matière 1: Géométrie de l'espace 1	45h00	1h30	1h30			2	4	40%	60%
Matière2: Dessin et art graphique 1	45h00		3h00			2	3	100%	
Matière 3: Terminologie 1	22h30		1h30			1	2		100%
UE transversale						3	3		
UET1 (O/P)									
Matière 1: Technologie des matériaux de construction 1	22h30	1h30				1	1		100%
Matière 2: Physique	22h30	1h30				1	1		100%
Matière 3: Mathématiques	22h30	1h30				1	1		100%
Total Hebdomadaire		9h00	7h30		9h00				
Total Semestre 1	**382h30**					**20**	**30**		

Go to the 1st semester files

Semester 2:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF1 (O/P)									
Matière 1: Atelier de projet 2	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 2	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 2	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM1 (O/P)									
Matière 1: Géométrie de l'espace 2	45h00	1h30	1h30			2	4	40%	60%
Matière 2: Dessin et art graphique 2	45h00		3h00			2	3	100%	
Matière 3: Terminologie 2	22h30		1h30			1	2		100%
UE transversale						3	3		
UET1 (O/P)									
Matière 1: Technologie des matériaux de construction 2	45h00			3h00		2	2	40%	60%
Matière 2: Physique du bâtiment	22h30	1h30				1	1		100%
Total Hebdomadaire		6h00	7h30	3h00	9h00				
Total Semestre 2	**382h30**					**20**	**30**		

Go to the 2nd semester files

Semester 3:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF3-1 (O/P)									
Matière 1: Atelier projet 3	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 3	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 3	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM3 (O/P)									
Matière 1: Construction 1	45h00	1h30	1h30			2	4	40%	60%
Matière 2: Analyse spatiale	45h00			3h00		2	4	100%	
Matière 3: Terminologie 3	22h30		1h30			1	1		100%
UE transversale						2	2		
UET3 (O/P)									
Matière 1: Résistance des matériaux 1	45h00	1h30	1h30			2	2	40%	60%
UE découverte						1	1		
UED3 (O/P)									
Matière 1: Anthropologie de l'espace	22h30	1h30				1	1		100%
Total Hebdomadaire		7h30	6h00	3h00	9h00				
Total Semestre 3	**382h30**					**20**	**30**		

Go to the 3rd semester files

Semester 4:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentales						12	18		
UEF4 (O/P)									
Matière 1: Atelier projet 4	135:00				9:00	6	12	100%	
Matière 2: Histoire critique de l'architecture 4	45:00	1:30	1:30			4	4	40%	60%
Matière 3: Théorie de projet 4	22:30	1:30				2	2		100%
UE méthodologie						5	9		
UEM4 (O/P)									
Matière 1: Construction 2	45:00	1:30	1:30			2	4	40%	60%
Matière 2: Géographie de l'habitat	22:30	1:30				1	2		100%
Matière 3: Conception assistée par ordinateur	45:00			3:00		2	3	100%	
UE transversale						2	2		
UET4 (O/P)									
Matière 1: Résistance des matériaux 2	45:00	1:30	1:30			2	2	40%	60%
UE découverte						1	1		
UED4 (O/P)									
Matière 1: Séminaires et sortie de découverte anthropologie de l'habitat	22:30	1:30				1	1	60%	40%
Total Hebdomadaire		9:00	4:30	3:00	9:00				
Total Semestre 4	**382:30**					**20**	**30**		

Go to the 4th semester files

Semester 5:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentales						12	18		
UEF5 (O/P)									
Matière 1: Atelier projet 5	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 5	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 5	22h30	1h30				2	2		100%
UE méthodologie						5	9		
UEM5 (O/P)									
Matière 1: Introduction à l'urbanisme	22h30	1h30				1	2		100%
Matière 2: Planification et aménagement spatial 1	45h00		3h00			2	3	100%	
Matière 3: Equipements du bâti 1	45h00	1h30	1h30			2	4	40%	60%
UE transversale						3	3		
UET5 (O/P)									
Matière 1: Structure 1	45h00	1h30	1h30			2	2	40%	60%
Matière 2: Modélisation et simulation (BIM) 1	22h30	1h30				1	1		100%
Total Hebdomadaire		9h00	7h30		9h00				
Total Semestre 5	**382h30**					**20**	**30**		

Go to the 5th semester files

Semester 6:

Unité d'Enseignement	VHS	V.H hebdomadaire				Coef.	Crédits	Mode d'évaluation	
	15 semaines	C	TD	TP	Atelier			Continu	Examen
UE fondamentale						12	18		
UEF5 (O/P)									
Matière 1: Atelier projet 6	135h00				9h00	6	12	100%	
Matière 2: Histoire critique de l'architecture 6	45h00	1h30	1h30			4	4	40%	60%
Matière 3: Théorie de projet 6	22h30	1h30				2	2		100%
UE méthodologique						5	9		
UEM5 (O/P)									
Matière 1: Outils et instruments d'aménagement et d'urbanisme en Algérie	22h30	1h30				1	2		100%
Matière 2: Planification et aménagement spatial 2	45h00		3h00			2	3	100%	
Matière 3: Equipements du bâti 2	45h00	1h30	1h30			2	4	40%	60%
UE transversale						3	3		
UET5 (O/P)									
Matière 1: Structure 2	45h00	1h30	1h30			2	2	40%	60%
Matière 2: Modélisation et simulation (BIM) 2	22h30			1h30		1	1		100%
Total Hebdomadaire		7h30	7h30	1h30	9h00				
Total Semestre 6	**382h30**					**20**	**30**		

Go to the 6th semester files

Overall summary of the training:

(Indicate the separate overall VH in progress, TD, TP… for the 06 semesters of teaching, for the different types of EU)

VH / UE	UEF	UEM	UED	UET	Total
Cours	270	225	22,5	180	697,5
TD	135	382,5	0	90	607,5
TP	0	90	0	67,5	157,5
Atelier	2025	0	0	0	2025
Travail personnel	270	652,5	27,5	62,5	1012,5
Total	2700	1350	50	400	4500
Crédits	108	54	2	16	**180**
% en crédits pour chaque UE	60,00%	30,00%	1,11%	8,89%	
			10,00%		

III. Detailed program by subject of the semesters

(1 detailed sheet per subject / All fields must be completed)

Semester 1	(Return to table)
Teaching unit	UEF 1
Matter	Project workshop 1
Coefficient	6
Credit	12

Teaching objectives
Acquisition of representation and communication tools
Introduction to reading architectural space
Develop perception and analysis skills in students

Recommended prior knowledge
Notions of geometry / General knowledge

Content of the material:

- **Expression and communication tools**
  - Freehand drawing
  - Conventional technical drawing
  - The orthogonal projection
  - The working drawing
  - The architectural survey
  - Perspective and axonometry
  - The shadow line
  - Bays and openings
  - Vertical transition elements
- **Reading the architectural space**
  - Reading primary elements and shape properties
  - Analysis and interpretation of modes of transformation and association
  - Decomposition/recomposition exercises

Evaluation method:
100% Continuous Control

References
Bielefeld B., SKIBA I., Graphic Representation-Basics Technical Drawing, Birhäuser editions, 2006
BelmonT J., The 4 foundations of architecture, Le Moniteur., 1987.
Calvat G., Introduction to building design, Eyrolles editions, Paris, 1987-1990.
Chenef M., Stairs: design, sizing, execution, Paris, CSTB editions, 2008
Ching F-DK., Architecture: form, space and order, Hardcover 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Ludi JC., Perspective step by step, Manual of graphic construction of space and shadow tracing, Paris, Dunod editions, 1999.
Neufert E., The elements of construction projects, Paris, publishing Dunod, 2002.
Rabin D., The tailor-made house, Paris, le Moniteur, 2009.
Van Meiss P, From form to place, an introduction to the study of architecture, EPUL.
Yanes MD, Dominguez ER, Freehand drawing, Eyrolles editions, Paris, 2005.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 1	(Return to table)
Teaching unit	**UEF 1**
Matter	**Project theory 1**
Coefficient	**2**
Credit	**2**

Teaching objectives
Introduction to architecture
Familiarization with architectural language
Introduction to reading and understanding architectural space
Acquisition of the foundations of composition in architecture

Recommended prior knowledge
Geometry concepts
General culture

Content of the material:

- **The profession of Architect**
- **The different modes of representation and communication of the architect**
- **Composition in architecture**
  - Laws of vision and coherence factors
  - Laws of composition, essential concepts (harmony, balance, hierarchy, scale and proportions, etc.)
  - Primary elements of shape and properties of shape (geometry, dimension, position, orientation, color, texture)
  - Generation and transformation of shape (dimensional, additive, subtractive)
  - Association modes (centralized, linear, radial, raster, inclusion, nesting, juxtaposition, articulation)
  - Limits and levels of variation
  - Articulation and continuity
  - Space openings

Evaluation method:
100% Review

References
BelmonT J., The 4 foundations of architecture, Le Moniteur, 1987.
Ching F-DK, Architecture: form, space and order, Hardcover, 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Van Meiss P., From form to place, an introduction to the study of architecture, EPUL. , 1973.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 1	(Return to table)
Teaching unit	**UEF 1**
Matter	**Critical history of architecture 1**
Coefficient	**4**
Credit	**4**

Teaching objectives

The history of architecture is not easily defined, it is the history of buildings, of living, of techniques, of architects. Furthermore, the history of architecture is also that of architectural design, the notion of architecture, its definitions and their effects on the production of buildings. His teaching aims to provide an understanding of the material translation of the human spirit in the field of architecture and its evolution over time.

- Acquire the basics of an architectural culture.
- Learn to read between the stones and develop critical thinking.
- Build a repertoire of ideas and references to stimulate creativity.

Recommended prior knowledge

General culture.

Content of the subject

- Prehistory and the first refuges.
- Mesopotamian architecture.
- Egyptian architecture.
- Greek architecture.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

AURENCHE, O.(1981), The Oriental House. The architecture of the ancient Near East from the origins to the middle of the 4th millennium, 3 vols., Paris, Geuthner.
BENOIT, A.(2003), Civilizations of the Ancient Near East, Paris, RMN.
CALLEBAT, L.C.. (1998), History of the Architect, Paris, Flammarion.
CHOISY, A.(1964), History of architecture, Paris, Ed. Vincent, Fréal and Co.
Cole, E.(2003), Grammaire de l'architecture, Paris, Dessain et Tolra.
D'ALFONSO, E., SAMSA, D.(2001), Architecture: forms and styles from Antiquity to the present day (2nd edition), Paris, Solar.
FLETCHER, B.(1987), A History of Architecture, 19th ed., London.
GINOUVES, R., MARTIN, R.(1985), Methodical Dictionary of Greek and Roman Architecture, 3 vols., French Schools of Athens and Rome.
GOYON, JC et al.(2004), The pharaonic construction, Paris, Picard.
HOLTZMANN, B.(2003), The Acropolis of Athens, monuments, cults and history of the sanctuary of Athena Polias, Paris, Picard.
MARTIN, R.(1966), The Greek World, coll. Universal architecture, Fribourg.
MARTIN, R.(1974), Urban Planning in Ancient Greece, Paris, Picard.
MONNIER, G.(2001), History of architecture, Paris, PUF.
NUTTGENS, P.(2002), History of architecture, Paris, Phaidon.
STIERLIN, H.(2007), The Pharaohs builders, Paris, Terrail.

Semester 1	(Return to table)
Teaching unit	**EMU 1**
Matter	**Space geometry 1**
Coefficient	**2**
Credit	**4**

Subject objectives*:*

One of the main objectives of the first year being the mastery of the project tools, the lessons must therefore be oriented towards the acquisition of all the knowledge which will facilitate the analysis, understanding and initiation to the design of an architectural object in three-dimensional space.

The subject of DESCRIPTIVE AND PERSPECTIVE GEOMETRY must be considered as an education in architectural drawing, through its geometric foundations. Its main objective is to introduce the student to the tools of projection and graphic interpretation of an object in space, through:

* The acquisition of the geometric tools necessary for the correct representation of architectural objects, through mastery of the three methods of Euclidean representation:

Orthogonal projection, based on Monge geometry, which represents the architectural object through its orthogonal projections on one or more planes;

Axonometry,based on parallel projection, represent the architectural object in a volumetric view.

The shadow, representation of shadow in plan and facades

Content of the subject

The teaching of this module consists of two complementary parts: theoretical and practical.

- The theoretical part is given in the form of lectures explaining the main geometric concepts and their demonstrations.

-**The practical part***,*for its part, is provided in the form of tutorial sessions allowing application of the course through representations of simple volumes, done in class, and supplemented by more complete representations developed outside tutorial hours. These are monitored during consultation sessions. This type of exercises constitutes a first step in learning architectural drawing, which remains a common objective between this teaching and the teaching of architecture in the first year.

Introduction :descriptive and projective space, proper and improper elements of the plan/space reference elements: notions of dimension, point, line, surface, plane, volume, horizontality, verticality, parallelism, perpendicularity, alignments, angles.

Membership conditions and parallelism:belonging to a line, to a plane, simple intersections (straight lines, line/plane, Plane/plane), complex intersections (plane figures in orthogonal projection),

Perpendicularity conditions:straight lines and perpendicular planes, reduction to a plane projecting from any plane and straight line, application to the determination of angle and distance measurements, construction of volumes and simple structures

Shadows:clean and reachable (natural source, artificial source)

Evaluation method:

60% Examination, 40% Continuous assessment

References *(*To be defined by the teacher at the start of the semester).

Semester 1	(Return to table)
Teaching unit	**EMU 1**
Matter	**Drawing and graphic art 1**
Coefficient	**2**
Credit	**3**

Subject objectives: The training therefore aims to enable the student:
* to master observation drawing as a tool for analysis, expression and architectural communication
* to learn the architectural aspects of graphic composition and layout by learning its rules, and of color by refining chromatic perception
* to acquire an artistic culture Carried out in parallel with training in descriptive geometry, this teaching makes it possible to complete the acquired notions and to free the line and the hand for the benefit of a flexible and free expression, but constructed according to the rules art. It also allows the student to understand that the development of a presentation board for the project must obey the rules of graphic composition to be readable and highlight the assets of the project.

Content of the subject

The training consists of two complementary parts: theoretical and practical.
1. The theoretical part has the role of introducing the student to the mysteries of graphic representation through the use of different techniques, tools, rules of graphic composition, chromatic meaning, etc.
It also allows the student to acquire the means of analyzing a representation, through the study of the different significant works of the great universal and/or Algerian masters (drawing, painting, miniature, fresco, mosaic, advertising poster , commented video projection, visits to museums, exhibitions). The role of this part is also to emphasize the semiology of the manufactured images, which are not the result of chance, but express intentions by means of signs which, accumulated, will constitute a real code.
2. The practical part takes place in a drawing workshop. Exercises are planned:
* expression techniques and their effects (pencil, charcoal, watercolor, mosaic, collage, mixed techniques)
* techniques for observation and analysis of architectural elements and/or groups
(Architectural, urban, landscape perspectives; construction, proportion, texture, color, light and shadow, simplified detail)
* rules of graphic composition (background, planes, full/empty proportion, outline, center of interest, guide lines, rhythms, dynamics and statics of the composition, light and color)

Evaluation method:
100% Continuous Control

References :*(*To be defined by the teacher at the start of the semester).

Semester 1	(Return to table)
Teaching unit	**EMU 1**
Matter	**Terminology 1**
Coefficient	**1**
Credit	**2**

Subject objectives:
Apart from tools of graphic expression and representation, verbal communication remains a fundamental tool for the architect. Students must therefore have at their disposal from the start tools that will allow them to understand the interlocutor, and also to express themselves clearly. The aim would therefore be to familiarize the student with the architectural environment and its lexicon in order to enrich and improve their linguistic knowledge.

Content of the material:
The progressive mastery of the vocabulary specific to architecture is achieved through the discovery of projects for individual houses and buildings through architectural magazines.

Evaluation method:
100% Review

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 1	(Return to table)
Teaching unit	**UET 1**
Matter	**Building Materials Technology 1**
Coefficient	**1**
Credit	**1**

Subject objectives*:*
Learn to make choices of construction materials based on their properties, under conditions of consistency, safety, durability and cost. Also become aware of the diversity of materials and their use in buildings.

Content of the subject
The teaching of the subject is theoretical for this first semester. This theoretical part is based on lectures which are organized around chapters, presenting the basic materials for structural works and the basic materials for coatings and finishes such as:

- The binders, the stone,
- Concrete, reinforced concrete, prestressed concrete, lightweight concrete,
- Basic ceramic products,
- plastic products,
- Wood,
- The additives,
- Ferrous and non-ferrous metals: their composition, manufacture, characteristics, classification and areas of use.

Evaluation method:
100% Review

References

- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by laboratory tests, Raymond DUPAIN,
- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by testing
- Laboratory, Raymond DUPAIN, Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ,
- Building materials 1, Prof. JP DELISLE, F. ALOU, Lausanne, October 1978
- Building materials, GI GORCHAKOV, Moscow 1988
- Housing materials, DUFOND and FAURY
- New guide to concrete and its constituents Georges DREUX, Jean FESTA, Edition Eyrolles, 1998
- Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ, Editions CASTEILLA, 2004
- Building Materials Technology, KOMAR

Recommendations:
In addition to this theoretical part, we recommend visits to construction sites or companies.

Semester 1	(Return to table)
Teaching unit	**UET 1**
Matter	**Physical**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

These lessons constitute a matrix for understanding the static and dynamic behavior of construction in its different aspects. They devote the approach to physical phenomena linked directly or indirectly to the act of building.

The main targeted objectives are:

1. Preparation of the student for technical subjects (engineering sciences) participating in the training course;
2. Developmentlogic in the interpretation of physical phenomenain the building ;
3. familiarization with engineering language.

Content of the subject

- General concepts;
- Units of measurement: the international SI system;
- Forces (static): balance, composition decomposition;
- Forces polygon and funicular polygon;
- Analytical statics;
- The statics of solids: the equilibrium conditions of solid bodies (analytically and graphically) for different forces.
- Work and energy: quantity of movement, work, kinetic energy, potential energy, total mechanical energy.
- Vibration and waves: Vibration, waves, periods and forces of inertia.
- Fluid mechanics: hydrostatics, Pascal's theorem, hydrodynamics, Bernoulli's theorem and pressure losses
- Thermodynamics: First and second law

Evaluation method:

100% Review

References

To be defined by the teacher at the start of each semester.

Semester 1	(Return to table)
Teaching unit	**UET 1**
Matter	**Mathematics**
Coefficient	**1**
Credit	**1**

The objective of teaching mathematics is to refocus the role of this science and more particularly of geometry in the training of students in architecture. The program allows the student to acquire the basic tools to formulate, represent and calculate the shapes and/or spaces that the student is able to imagine.

Content of the subject

1. The main theorems of Euclidean geometry.
2. Trigonometry reminders.
3. The different 2D and 3D coordinate systems
4. Metric properties of elementary geometric figs
5. Study and geometric construction of regular polygons
6. 2D isometric transformations.
7. Reminder of regular polygons; Study and geometric construction of Platonic polyhedra.
8. Geometry and vector calculation.
9. Dies

Evaluation method:
100% Review

References

To be defined by the teacher at the start of each semester.

Semester 2	(Return to table)
Teaching unit	UEF 2
Matter	Project workshop 2
Coefficient	6
Credit	12

Teaching objectives
Develop the student's perception and design skills

Recommended prior knowledge
Project Workshop 1
Project Theory 1

Content of the material:

-Initiation to the relationship between form and functional requirements
-Initiation to construction systems and architectural framework
-Introduction to the formatting of an architectural concept
-Introduction to the formatting of the architectural project: synthesis project

Evaluation method:
100% Continuous Control

References
BelmonT J., The 4 foundations of architecture, Le Moniteur, 1987.
Ching F-DK, Architecture: form, space and order, Hardcover, 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Salvadori M., How does it hold, Parentheses, 2005.
Van Meiss P, From form to place, an introduction to the study of architecture, EPUL, 19986.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 2	(Return to table)
Teaching unit	**UEF 2**
Matter	**Project theory 2**
Coefficient	**2**
Credit	**2**

Teaching objectives
Introduction to the interaction and interdependence between the elements of the form/function/structure triptych in the architectural design process.

Recommended prior knowledge
Project theory 1

Content of the material:

- Shape/space/structure relationships
  - Introduction to structure
  - Structure and architecture (frames, roofing, tensile structures)
  - Relationships between materials/structure/form/space

- Introduction to project formatting

- Systems of proportions
- Special proportions: The modulor
  - Dimensional coordination and its implications in the project
  - Ergonomics and architecture
  - Basic notions of programming

3/ Projection process, its scales and stages

Evaluation method:
100% Review

References
BelmonT J., The 4 foundations of architecture, Le Moniteur, 1987.
Ching F-DK, Architecture: form, space and order, Hardcover, 1979.
Cousin J., Living space, Le Moniteur, 1980.
Kerboul F., Introduction to architecture, ENAG, 1997.
Salvadori M., How does it hold, Parentheses, 2005.
Van Meiss P, From form to place, an introduction to the study of architecture, EPUL, 19986.
Zevi B., Learning to see architecture, éditions de Minuit, 1973.

Semester 2	(Return to table)
Teaching unit	**UEF 2**
Matter	**Critical History of Architecture 2**
Coefficient	**4**
Credit	**4**

Teaching objectives

- Understand the material translation of the human spirit in the field of architecture and its evolution over time.
- Acquire the basics of an architectural culture.
- Learn to read between the stones and develop critical thinking.
- Build a repertoire of ideas and references to stimulate creativity.

Recommended prior knowledge

Critical history of architecture 1 / General culture.

Content of the subject

- Architecture**Roman**(take into consideration the Roman cities of Algeria) / Architecture**Byzantine**/ Architecture**Roman**/ Architecture**Gothic**.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

ADAM, J.P.(2005), Roman construction, Paris, Picard.
BARRAL I ALTER,(1997), Early Middle Ages: from late antiquity to the year 1000, Cologne, Taschen.
CHARLES-PICARD, G.(1962), Roman Art, Paris, PUF
Cole, E.(2003), Grammaire de l'architecture, Paris, Dessain et Tolra.
f.CONTI, MC GOZZOLI, (1998) Knowing art, Roman, Gothic, Baroque, Renaissance, Comptoir du Livre, Paris.
DAVEY, N.(1961), A History of Building Materials, London.
DUBY, G.(1966), The Middle Ages, 2, The Europe of Cathedrals, Geneva.
GINOUVES, R., MARTIN, R.(1985), Methodical Dictionary of Greek and Roman Architecture, 3 vols., French Schools of Athens and Rome.
MANGO, C.(1993), Byzantine architecture, Paris, Gallimard.
MUMFORD, L.(1964), The city through history, Paris, Seuil.
PERRAULT, C.(1988), The ten architectural books of Vitruvius, Liège, Pierre Mardaga.
SUTTON, I.(2001), Western architecture from ancient Greece to the present day, Paris, Thames & Hudson.
TARICAT, J.(2003), Histoires d'architecture, Marseille, Éditions Parenthesis.
TOMAN, R.(1996), Romanesque Art, Cambridge, Konemann.
VERGARA, L., TOMASELLA GMD(2001), Recognizing architectural styles: from prehistory to contemporary architecture, Paris, De Vecchi.
WARD-PERKINS, J.B.(1994), Roman architecture, Paris, Gallimard.

Semester 2	(Return to table)
Teaching unit	**EMU 2**
Matter	**Space geometry 2**
Coefficient	**2**
Credit	**4**

Subject objectives*:*

Application of the acquired knowledge from the first semester of teaching to the representation of polyhedra and surfaces of revolution, which allows complex volumes, their intersections and the shadow effects they produce to be translated into a plan. Content of the subject

Concept of polyhedra:definition and classification (regular polyhedra, sections and developments, symmetry elements, topological properties)

Surfaces of revolution:conical, cylindrical and spherical surfaces, their representation, section and development, own shadows and cast shadows

Surface development:determination of developments

Intersection of two surfaces: type of intersection, construction method, intersection lines

Perspective :based on the central projection, which allows you to have an image of the object relative to a point of view, close to that of the photograph, without neglecting the possibilities of a precise metric reading

* Highlighting their correlation and complementarity, essential in the study of the object and architectural space.

Evaluation method:

60% Examination, 40% Continuous assessment

References *(*To be defined by the teacher at the start of the semester).

Semester 2	(Return to table)
Teaching unit	**EMU 2**
Matter	**Drawing and graphic art 2**
Coefficient	**2**
Credit	**3**

Subject objectives:

Familiarization with the third dimension is one of the basic and essential components for fully understanding architecture. The direct approach to this notion through the sculptural type volume proves to be complementary, even essential, to give the student a more in-depth and reliable tool and understanding of architectural design. The practical manipulation of the material also allows the student to better understand the relationship between the idea and its realization in reality.

Furthermore, this teaching aims to give the student the opportunity to practice the simultaneous design/realization of his idea through mastery of the notion of proportion in three dimensions, observation techniques, texture and physical properties of materials (clay, plaster, ceramic, iron, wood, papier-mâché, soap, etc.)

Content of the material:

The training consists of two complementary parts: theoretical and practical.

The theoretical parthas the role of introducing the student to the mysteries of sculpture: different techniques, tools, materials and their possibilities. It also allows the student to acquire the means of analyzing a sculptural work, through the study of the different significant works of the great masters or the great civilizations (commented video projection, visits to museums, exhibitions) and observation of interesting architectural works (field trips: sculpture in the city, sculpture in architecture).

1. **Theorical class**:

* Technical and artistic drawing
* Sculpture in history
* The architecture of the sculpture (materials, framework, texture)
* The concepts of sculptural composition (expression, proportion, angles of view)
* The relationship between sculpture and architecture
* relief sculpture
* Sculpture in an urban environment
* modeling and assembly
* stereo lithography and digital sculpture

2. The practical part takes place in a sculpture workshop. Exercises are planned:

* architectural bas-relief allows us to observe the effects linked to the nature of the line, the play of shadows and light on a flat surface, the difficulties of handling and the fragility of the material;
* the complex volumetric composition makes it possible to grasp the laws of nesting of volumes, composition, proportion, balance and stability of the work;
* the abstract composition integrated into the architectural or urban space allows the sculptural representation of an idea, of a metaphor inscribed in a precise context. This exercise will develop the student's creative abilities within the constraints of the employment environment.

Evaluation method:

100% Continuous Control

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 2	(Return to table)
Teaching unit	**EMU 2**
Matter	**Terminology 2**
Coefficient	**1**
Credit	**2**

Subject objectives:
Apart from tools of graphic expression and representation, verbal communication remains a fundamental tool for the architect. Students must therefore have at their disposal from the start tools that will allow them to understand the interlocutor, and also to express themselves clearly. The aim would therefore be to familiarize the student with the architectural environment and its lexicon in order to enrich and improve their linguistic knowledge.

Content of the material:
The progressive mastery of the vocabulary specific to architecture is achieved through the discovery of projects for individual houses and buildings through architectural magazines.

Evaluation method:
100% Review

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 2	(Return to table)
Teaching unit	**UET 2**
Matter	**Building Materials Technology 2**
Coefficient	**2**
Credit	**2**

Subject objectives*:*
Learn to make choices of construction materials based on their properties, under conditions of consistency, safety, durability and cost. Also become aware of the diversity of materials and their use in buildings.

Content of the subject

The teaching of the subject for this second semester is practical and is organized in the form of practical work. The student will discover the practical applications of the theoretical concepts acquired during the TMC1 courses.

The objective of the TPs is to get to know construction materials through:
* practical handling in the TMC laboratory
* field visits (construction sites, factories)
* the drawing of basic constructive details (assembly of various coverings, finishing fixings, etc.)

Evaluation method
60% Examination, 40% Continuous assessment

References

- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by laboratory tests, Raymond DUPAIN,
- Aggregates, soils, cements and concrete: Characterization of civil engineering materials by testing
- Laboratory, Raymond DUPAIN, Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ,
- Building materials 1, Prof. JP DELISLE, F. ALOU, Lausanne, October 1978
- Building materials, GI GORCHAKOV, Moscow 1988
- Housing materials, DUFOND and FAURY
- New guide to concrete and its constituents Georges DREUX, Jean FESTA, Edition eyrolles, 1998
- Roger LANCHON, Jean-Claude SAINT-ARROMAN, A CAPLIEZ, Editions CASTEILLA, 2004
- Building Materials Technology, KOMAR

Recommendations
the practical exercises can be performed in cooperation with the project workshop and the sculpture workshop.

Semester 2	(Return to table)
Teaching unit	**UET 2**
Matter	**Building physics**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

The chapters included in this part of physics teaching correspond to the different phases of the progress of a construction project (structural works and CES). The lessons thus acquired constitute an essential foundation for understanding the static and dynamic behavior of construction and its equipment in all their aspects.
In addition to understanding certain physical phenomena linked directly or indirectly to the act of building, the main objectives targeted are:
-the preparation of the student for the technical subjects contained in the training course (RDM, heating, air conditioning, lighting, water and electricity supply, acoustic insulation, etc.);
-the development of logic in the interpretation of physical phenomena;
-the familiarization of the student architect with the language of the engineer.

Content of the subject

- **Fluids:**the laws of hydrostatics, theorems of Pascal and Archimedes, the laws of hydrodynamics, Bernoulli's theorem, laws and different types of flow of a liquid.
- **Thermal:**heat, temperature, heat transfer laws, calculation of losses (equivalent circuit).
- **Acoustics:**sound waves, sound pressure, physical level of sound, sound transmission, reflection and absorption of sound waves.
- **Photometry:**photometric quantities.
- **Electricity :**electric current, Ohm's law, Kirchoff's theorem, electric energy, electric power.

Evaluation method
100% Review

References
Sébastien Candel, “Fluid mechanics: Course”, Edition Dunod, 2001.
A. Bianchi, Y. Fautrelle, J. Etay, “Thermal transfers”, Edition Agence universitaire de la Francophonie, 2004
Antonio Fischetti, “Initiation to acoustics: Courses and exercises”, Edition Berlin, 2004

Semester 3	(Return to table)
Teaching unit	UEF 3
Matter	Project workshop 3
Coefficient	6
Credit	12

Teaching objectives
Integration of the project into its environmental context
Acquisition of notions of comfort

Recommended prior knowledge
Project workshop 1 and 2
Project theory 1 and 2

Content of the material:

- **Analysis of the implementation context**
  - Site Features
  - Identification of constraints and potentialities

- Comfort and ladders
  - Integration of comfort parameters (hygrometric, sensory, etc.) according to different scales (territorial, urban, architectural)

- Developing a housing project

Evaluation method:
100% Continuous Control

References

Faye P&B., M.Tournaire, A.Godard, Site and Sitology, how to build without breaking the landscape, JJ.PAUVERT, 1974,
LynchK., The image of the city Paris, Dunod, 1969,
PaneraiP.,DemorgonMr.,DepauleJP., Urban analysis,Parentheses, 1999
Panerai P., Castex J.,DepauleJP., Urban forms from the block to the bar, parentheses, 2001
Givoni.B, Man, architecture and climate, the monitor, 1978
Rapoport A., For an Anthropology of the house, Paris Dunod, 1972

Semester 3	(Return to table)
Teaching unit	**UEF 3**
Matter	**Project theory 3**
Coefficient	**2**
Credit	**2**

Teaching objectives
Understanding of the dialectic of site/project containing/content, spaces/uses.

Recommended prior knowledge
Project theory 1 & 2
Project 1 & 2

Content of the material:

- **SITE AND INTEGRATION WITH THE SITE:**
  - **A. the site**

1/ Definition of the concept "site".
2/ Perception of a natural site: silhouettes, contours, textures, groupings, focal points, landmarks, lights, scales, etc.

- **B. - Integration into the site (relationship of the building to its environment):**

1/ Definition of the different types of integration (functional integration, socio-cultural integration, morphological integration, etc.)
2/ The different attitudes of the architect towards the built environment (Pastiche, mimicry, reference, analogy, opposition, etc.)

- **COMFORT IN THE BUILDING:**
  - ✓ Concepts of comfort, physical parameters of the environment, elements of comfort, regulations and control strategies for improving the quality of life in the building.
  - ✓ The themes to be taught will be approached from the perspective of sustainable development allowing the student to acquire new knowledge based on recent scientific references.
  - ✓ These objectives will be met by courses on the control of physical parameters of the environment such as climate and its relationship to architecture, micro climate and urban micro climate, sun and wind factors, light, noise, and the determinants of psychological comfort.

- **METHOD FOR ANALYZING A CONSTRUCTION SUPPORT SITE:**
  - **A. Earthmoving techniques.**

- Topographic sections and enlargement of land.

- **B. Analysis of an urban fabric:**

1/ Definition of concepts: The neighborhood, the neighborhood unit, the residential group, etc.
2/ Notions on urban regulations and planning instruments (PDAU, POS, etc.)
3/ Issues and necessities and content of urban analysis.

Evaluation method:
100% Review

References

Faye P&B., M.Tournaire, A.Godard, Site and Sitology, how to build without breaking the landscape, JJ.PAUVERT, 1974,
LynchK., The image of the city Paris, Dunod, 1969,
PaneraiP.,DemorgonMr.,DepauleJP., Urban analysis,Parentheses, 1999
Panerai P., Castex J.,DepauleJP., Urban forms from the block to the bar, parentheses, 2001
Givoni.B, Man, architecture and climate, the monitor, 1978
Rapoport A., For an Anthropology of the house, Paris Dunod, 1972

Semester 3	(Return to table)
Teaching unit	**UEF 3**
Matter	**Critical History of Architecture 3**
Coefficient	**4**
Credit	**4**

Teaching objectives

LThe critical history of architecture subject of the second year focuses on architecture and the city in the territories of Islam. The teaching of this subject aims not only at an event-based and chronological knowledge of the different architectural manifestations but also at an attempt to categorize the latter linked to different socio-economic and cultural contexts, participating in the creation of knowledge on the project of 'architecture. Indeed,The main objective of teaching history for architects is to present and analyze project experiences, through their forms and the processes that generated them, which will serve to fuel the student's thinking and enrich his imagination. Because the architectural project involves three temporalities: by being mainly in the present, it questions the past and projects into the future.

Recommended prior knowledge

Critical history of architecture 1 and 2.
General culture.

Content of the material:from the birth of Islam to the decline of central powers.
- The Muslim world, geographical and historical elements.
- First Muslim architecture (610-661).
- City(s) and architecture(s) during the Umayyad period (661-750).
- City(s) and architecture(s) during the Abbasid period (750-945).

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

BURCKHARDT, T.(1985), The art of Islam, Language and meaning, Paris Sindbad.
CHEVALIER, D.(1979), The social space of the Arab city, Paris, Maisonneuve and Larose.
DJAÏT, H.(1986), Al-Koufa, birth of the Islamic city, Paris, Maisonneuve and Larose.
GOLVIN, L.(1971), Essay on Muslim religious architecture, Paris, Klincksieck.
M. HATTSTEIN AND P. DELIUS (dir.) (2008)*LIslam Arts and civilizations*, Berlin, hfullmann.
THE GOOD, G.(2009), The civilization of the Arabs, Algiers, Casbah éditions.
MOZATTI, L.(2003), The art of Islam, Paris, Mengès.

ابن الرامي"الاعلان باحكام البيان".
صالح الهذلول،"المدينة العربية الاسلامية"، الرياض ،1413ه.
مصطفى أحمد بن حموش ،"رياض القاسمين ، فقه العمران الاسلامي لصاحبه القاضي كامي محمد بن أحمد بن ابراهيم الأدرنوي الحنفي أفندي(1649-1723م)"، دار البشائر دمشق،2000م.

Semester 3	(Return to table)
Teaching unit	**EMU 3**
Matter	**Build 1**
Coefficient	**2**
Credit	**4**

Subject objectives

This course aims to introduce the student to the fundamental notions of structure and stability of the building, to transmit the vocabulary and basic knowledge on construction processes, earthworks and materials. It must allow him to have the knowledge which will enable him to be able to design a structure and to be able to justify simple technical choices when designing his future projects.

Content of the subject

The material is partly organized theoretically in the form of a lecture and a tutorial supplemented by a connection with the work in Project Workshop 3.

I/ Requests

1. Actions requiring a building
2. Forces and sets of forces
3. Request/constrain
4. Balance of more than two forces in a plane
5. Connections and bracing

II/ design of a structure

6. Adaptation to the ground: superficial and deep foundations;
7. Structures and structural elements of the building: load-bearing elements, crossing;
8. Roles, stresses and deformations of the elements of the main structure.

III/ Earthworks.

Excavations, excavations, execution of backfills, calculation of cubes, compaction, reinforcement of soils

Construction TD: Essentially consists of carrying out site visits, as well as laboratory manipulation of materials and construction, in order to become familiar with the constraints of the site:

Layout and chairs
Use of the site level, the theodolite and the tape measure.
Cutting and filling / Calculation of earthworks
The retaining wall, the buttresses, the drainage, the reinforced concrete sails.
Foundations, their role in construction

Bibliographic references:

Building construction technology J. PUTATI (ed EYROLLES)
Treatise on civil engineering (vol 7-8-10-11-18-19-20) Presses polytechniques et universitaire Romandes EPFL. Lausanne.
Reinforced concrete structures H. Reanaud /F. Letrertre (ed. FOUCHER –France.)

Semester 3	(Return to table)
Teaching unit	**EMU 3**
Matter	**Spatial analysis**
Coefficient	**2**
Credit	**4**

Subject objectives:
This subject aims to describe and explain a spatial organization through the analysis and definition of the physical and human characteristics of places by relating territories and their components, whatever their nature. Secondly, the space considered as the result of the games of the different actors.

Content of the material:
This subject will be covered mainly in guided or practical work, the theoretical notions can be explained briefly at the start of each session
The course is structured around the following axes:
Topography :involves the representation of a part of the earth's surface on a plane, by a correspondence of points on the earth/points of the plane projection, the representation of the shapes of the terrain (aerial photographs and field survey)
Geomorphological reading: identification of terrain shapes/relief shapes: side points, isohypses, etc.
Learning analysis and representation techniques: making topographic sections, slope maps, site models, geological sections (soil reliability).
Toponymic reading:meaning, identification, interpretation and representation of place names in geographical, historical and architectural studies.
Learning techniques, scales, standards of representation:
In topography: will be used: The basic planimetric and altimeter canvas, The direct topographic survey: choice of survey scales (Notions of small survey scale (≥ 1/40,000), Large survey scale (1/10,000 to 1/20,000 - Very large scale (< 1/10,000).
In thematic cartography and graphic semiology:will be discussed:
For a plane geometric representation: geodesic steps.
For a simplified and conventional representation: the reasoned schematization of significant details of the terrain.
Choice of projection system and unlimited cartographic transcription
Thematic mapping: definitions, objectives and method.
Cartographic transcription of concepts recorded in geographical space (cartographic figures, the graphic form of writing, conventional signs): Structure and property of the cartographic image and visual variables.
Thematic representation and writings.

Evaluation method:
100% Continuous Control

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 3	(Return to table)
Teaching unit	**EMU 3**
Matter	**Terminology 3**
Coefficient	**1**
Credit	**1**

Subject objectives:
Apart from tools of graphic expression and representation, verbal communication remains a fundamental tool for the architect. Students must therefore have at their disposal from the start tools that will allow them to understand the interlocutor, and also to express themselves clearly. The aim would therefore be to familiarize the student with the architectural environment and its lexicon in order to enrich and improve their linguistic knowledge.

Content of the material:
The progressive mastery of the vocabulary specific to architecture is achieved through the discovery of projects for individual houses and buildings through architectural magazines.

Evaluation method:
100% Review

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 3	(Return to table)
Teaching unit	**UET 3**
Matter	**Material resistance 1**
Coefficient	**2**
Credit	**2**

Subject objectives

The main objective of the RDM module in the training of the architect is that he must be able to understand and feel the behavior of the structure which will support his work, whatever the materials which constitute it. This involves understanding the physical phenomena involved (force, balance, stress, resistance, deformation, etc.) and their consequences for the design (choice of a material, geometry of the elements and their section, types of assemblies). The resistance of materials taught to second year students, which constitutes a basic subject for the structure modules of the following years, consists of giving them all the ingredients necessary for a good understanding of the theory of RDM.

Content of the subject

- Forces- Moments- Actions. Generally speaking, force is a physical concept which expresses the action that one body exerts on another.
- Principles- Representation of forces, moments and displacements. Forces and moments obey three
- Principles from which we can understand the analysis of the play of forces in structures.
- Balance. We must consider balance in plan and space to ensure the overall stability of a structure.
- Structural element. A structure is a set of elements (horizontal, vertical, etc.)
- The supports
- Calculation of beams
- Diagrams of internal forces (bending moment, shear forces and axial forces) in the
- Beams
- Concepts of constraints
- Mechanical properties of materials

Evaluation method

60% Examination, 40% Continuous assessment

References

RDM memory aid (Pissarenco, Ed Moscow)
Analysis of structures (Med. Osman Zakaria 1986-OPU Algiers)
Statics of constructions (Dobrescu –Alexandru OPU Algiers)
Dobrescu C and Alexandru “Construction statistics” (OPU 1992)
JC Doubrère “Practical course on the resistance of materials” (Edition Eyrolles 1979)
Anissimov, Djilali Berkene, Strakhov “Buckling-isostatic systems of bars” (OPU 1987)
Pissarenco “RDM memory aid” (Ed Moscow)
Med. Osman Zakaria “Analysis of structures” (1986-OPU Algiers)
Dobrescu –Alexandru “Static of constructions” (OPU Algiers)
Goulet Jean “Resistance of materials”

Semester 3	(Return to table)
Teaching unit	**DEU 3**
Matter	**Anthropology of space**
Coefficient	**1**
Credit	**1**

Subject objectives*:*
Recognize the interrelationships that exist between man and the space in which he lives.

Content of the subject

- relationship of man to space
- relationship of space to man.
- the dimensions of space
  - temporal dimension
  - spatial dimension
  - functional dimension
  - social dimension
  - identity dimension (cultural)

Evaluation method
100% Review

References

Edouard hall, the hidden dimension, threshold Paris, 1971
Jean cousin, living space, introduction to the first architectural space, Le Moniteur 1980
Amos rapoport, for an anthropology of the house, 1972

Semester 4	(Return to table)
Teaching unit	UEF 4
Matter	Project workshop 4
Coefficient	6
Credit	12

Teaching objectives
Mastery of the notion of living
Design of a residential complex

Recommended prior knowledge
Project workshop 1, 2 & 3
Project theory 1, 2 & 3

Content of the material:

- Housing typologies
- Standards in the field of housing (density, surface standards, durability, etc.)
- Program analysis
- Analysis of the installation site
- Project design

Evaluation method:
100% Continuous Control

References
Faye P&B., M.Tournaire, A.Godard, Site and Sitology, how to build without breaking the landscape, JJ.PAUVERT, 1974.
Givoni.B, Man, architecture and climate, the monitor, 1978.
LynchK., The image of the city Paris, Dunod, 1969.
PaneraiP.,DemorgonMr.,DepauleJP., Urban analysis,Parentheses, 1999.
Panerai P., Castex J.,DepauleJP., Urban forms from the block to the bar, parentheses, 2001.
Rapoport A., Pour une Anthropologie de la maison, Paris Dunod, 1972.
Wright D., Sun, nature, architecture, parentheses, 1979.

Semester 4	(Return to table)
Teaching unit	**UEF 4**
Matter	**Project theory 4**
Coefficient	**2**
Credit	**2**

Teaching objectives

Raise student awareness of housing problems in the sense of "habitability"

Integrate socio-cultural factors into the design of housing which must be considered as an integral part of the city.

Research the principles and concepts of "living" which take into account the reality of Algerian society and would allow the design of a habitat adapted to the lifestyle and cultural model of the Algerian family.

Recommended prior knowledge

Project theory 1, 2 & 3
Project workshop 1, 2 & 3

Content of the material:

- Introductory course on the concept of habitat, definitions of concepts (habitat, dwelling, living, inhabited, etc.)
- Overview of Algeria's housing policy.
- Housing production mode (administered, planned).
- Appropriation of the living environment/way of life, cultural model and practice of space.
- Housing typologies in Algeria
- Habitat around the world.
- Building legislation and regulations.

Evaluation method:

100% Review

References

Arnold F., Collective housing from design to rehabilitation, Le Moniteur, 2005.

Semester 4	(Return to table)
Teaching unit	**UEF 4**
Matter	**Critical History of Architecture 4**
Coefficient	**4**
Credit	**4**

Teaching objectives

- Have a culture of architecture in Islamic countries.
- Integrate this culture into processes*projectual*.

For more details, refer to semester 3.

Recommended prior knowledge

Critical history of architecture 3.
General culture.

Content of the material:the architecture of local dynasties in the West and the East.

- Muslims in the West, the historical backdrop.
- Muslims in the Orient, the historical backdrop.
-City(s) and "Muslim" architecture(s) of the unifying dynasties of the West:
    a. The Umayyads in Cordoba and Granada
    b. The Fatimids in Cairo
    c. The Almohads in Morocco
    d. The Ottomans in Algiers
- "Muslim" city(s) and architecture(s) of some local dynasties of the Orient.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam. (60% Examination, 40% Continuous assessment)

References

CAMBUZAT, PL(1986), The evolution of the cities of Tell in Ifrîkya from the 7th to the 11th century, Algiers, OPU.
CHERIF-SEFFADJ, N. (2008),*The baths of Algiers during the Ottoman period (16th – 19th centuries),*Paris, Pups.
CHERGUI, S. (2011),*The mosques of Algiers. Build, manage and conserve (16th–19th centuries),*Paris, Pups.
GUECHI, FZ(2004), Constantine: a city, legacies, Algiers, Éditions Média-Plus.
M. Hattstein and P. Delius (eds.) (2008)L*Islam Arts and civilizations*, Berlin, hfullmann.
KHELIFA, A.(2011), Tlemcen, Capital of the Central Maghreb, Algiers, Colorset.
KORBENDAU, I.(1997), The sacred architecture of Islam, Paris, ACR.
MARÇAIS, G.(1955), Muslim architecture in the West, Paris, Graphic Arts and Crafts.
MISSOUM, S.(2003), Algiers in the Ottoman era, The medina and the traditional house, Algiers, INAS.
RAYMOND, A.(1985), Large Arab cities in the Ottoman era, Paris, Sindbad.
STERLIN, H.(1979), Architecture of Islam from the Atlantic to the Ganges, Fribourg, Book Office.
مصطفى بن حموش"جوهر التمدن الاسلامي دراسات في فقهه العمران"دار قابس للطباعة والنشر والتوزيع.
محمدعبد الستار عثمان ، المدينة الاسلامية، عالم المعرفة، الكويت ،1988.

جميل عبد القادر أكبر،"عمارة الأرض في الاسلام"، دار القبلة للثقافة الاسلامية(جدة)، مؤسسة علوم القرآن(بيروت)،1992.

Semester 4	(Return to table)
Teaching unit	**EMU 4**
Matter	**Build 2**
Coefficient	**2**
Credit	**4**

Subject objectives

This teaching aimsto explain the impact of the finishing work of the building on the control of comfort and internal security and to take stock of the complexity of controlling the environments in the building.

Content of the subject

After having addressed the structural works component, we approach the teaching of the second work and its role in controlling the comfort and interior atmospheres of the building.

Theoretical portion :

1. Construction and thermal and hygrometric environments:
* Different types of roofing, building waterproofing, thermal and hygrometric behavior
* Thermal and aerodynamic behavior of walls (heavy facades, light facades, facade coverings)
* Different types of carpentry and aerodynamic, hygrometric and thermal insulation of the building.
2. Construction and soundscapes:
* Exterior acoustic insulation of the building (ambient noise)
* Interior acoustic insulation (ambient noise, impact noise)

Practical side :

Essentially consists of carrying out laboratory manipulations and carrying out practical construction project exercises in order to understand the behavior of a structure subject to different external constraints: aerodynamic, thermal, water, acoustic.
The exercises are carried out at the three scales of architectural design: sketch (scale 1/200), preliminary project (scale 1/100) and execution project (scale 1/50) construction details (scale 1/20 and 1 /10).

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 4	(Return to table)
Teaching unit	EMU 4
Matter	Habitat geography
Coefficient	1
Credit	2

Subject objectives:

The field of study of housing geography has three major objectives:

- The study of the relationships between man and his modified and developed physical environment.
- The analysis of the habitat according to its own morphological and socio-demographic particularities.
- Analysis of the structure of housing through its basic level: the neighborhood and its facilities.

Content of the material:

The course is structured around three parts:

1. First part: Habitat and geographical environment

- Environment and geographical environment
- Natural, modified and landscaped landscape
- Human settlements and natural environment

The analysis of the site and its components as elements of constraint or incentive for the establishment of human activities and the structures which support them: topography, hydrography, nature of the soil and subsoil, climate; Risk sites: flood-prone, unstable, marshy, polluted, seismic land. Impacts of site and geographic location on urban integration.

2. Second part: Habitat and population

- Mechanisms and processes leading to the formation of the built space: (Identification of the inhabited space according to its different physical and human components, factors at the origin of the formation of the habitat, typologies of the habitat, forms and locations specific)
- Traditional rural and urban housing (adaptation to the environment, typology, morphological classification)
- Housing and population (demographic and socio-economic particularities, resident population and population densities, different load indicators: TOL, TOP, activity indicators: BAE, CSP, household transformations and their mobility)
- Urban morphology and social morphology (socio-spatial distribution)

3. Part Three: Neighborhood as a unit of urban life

- Neighborhood, basic level of the urban structure (definitions, typology, different approaches to the concept of the neighborhood, functional, social, cultural criteria
- Neighborhood and its facilities (different urban functions and relational life, facilities, their standardization classification and typology, neighborhood facilities)
- Equipment related to housing (supporting equipment, public services and local private services)
- Neighborhood in the city (specialization of neighborhoods, spatial diversity)

Bibliographic references:

Cote Marc: “Countries, landscapes, peasants of Algeria”, CNRS Edition.
Derruau Max: “Precis of human geography”, Edition Armand Colin 1976.

Merlin. P and Choay. F: “Dictionary of town planning and development”, PUF 2000.
Rapoport Amos: “For an anthropology of the house”, Edition DUNOD.
Saidouni. M: “Introductory elements to town planning”, Edition Casbah / Algiers 2000.

Semester 4	(Return to table)
Teaching unit	**EMU 4**
Matter	**Computer Aided Design**
Coefficient	**2**
Credit	**3**

Subject objectives*:*

Introduce basic knowledge in the field of IT (office automation, intranet, Internet, hard and soft computing) Initiate a "digital culture", develop a methodology for research, structuring and presentation of information. Provide students with work tools allowing them to produce graphic parts of the project more quickly and with high precision.

Experiment with an interactive tool providing the architect with various manipulation possibilities in 2D and 3D, giving access to quick checks for conceptual choices.

Understand the methodological differences in using prototyping tools and production tools as design assistance.

Content of the subject

1. Introduction to basic knowledge (concept of information, database and its representation)
2. Knowledge about the operating system
4. Presentation of the CAD software (general, command syntax, entity properties)
5. Drawing commands (precision tools, layers, text, dimensions, graphics, etc.)
6. Editing commands (selection, selection modes, parameters…)
7. Learning a 3D design tool (coordinate system; 3D wire, surface and solid modeling; axonometry and perspective projections,
8. Basic notions of surface and solid treatment tools and techniques (Boolean operations): rotation in space, symmetry, etc.)
10. Concept of introducing cameras into a construction project and how to carry out a visit tour.

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 4	(Return to table)
Teaching unit	**UET 4**
Matter	**Material resistance 2**
Coefficient	**2**
Credit	**2**

Subject objectives*:*

The main objective of the RDM module in the training of the architect is that he must be able to understand and feel the behavior of the structure which will support his work, whatever the materials which constitute it. This involves understanding the physical phenomena involved (force, balance, stress, resistance, deformation, etc.) and their consequences for the design (choice of a material, geometry of the elements and their section, types of assemblies). The resistance of materials taught to second year students, which constitutes a basic subject for the structure modules of the following years, consists of giving them all the ingredients necessary for a good understanding of the theory of RDM.

Content of the subject

1. **Tension and Compression**
   - Parts subject to traction.
   - Parts subject to compression.
2. **Simple bending.**
   - Parts subjected to simple bending (slabs and beams).
   - Concept of bending moment; calculations and diagrams.
3. **Hyperstatic systems.**
   - Degree of hyperstaticity.
   - Hyperstatic planar structures.
   - Hyperstatic beams.
     - Three-moment method.
     - Caquot method.
     - Flat rate method.
4. **Frames and portals.**
   - Travel methods.
5. **Trellis systems.**
   - General.
   - Geometry.
   - Balance of a node.

References

Construction statistics (Dobrescu C and Alexandru OPU 1992)
Calculation of hyperstatic structures (Gheorghe Momanu OPU 1993)
Resistance of materials Volume 2 (Jean Roux Edition Eyrolles 1995)
RDM cheat sheet (Pissarenco, Ed Moscow)
Analysis of structures (Med. Osman Zakaria 1986-OPU Algiers)
Statics of constructions (Dobrescu –Alexandru OPU Algiers

Semester 4	(Return to table)
Teaching unit	**DEU 4**
Matter	**Seminars and discovery outings on the anthropology of habitat**
Coefficient	**1**
Credit	**1**

Goals : After the course on the anthropology of space, the seminars on the anthropology of habitat shed light on the interaction between the inhabitant, their environment and the habitat. These seminars are necessarily supported by discovery outings which will allow the student to test the knowledge acquired through in situ observations.

Content :

1. **Seminar part:**
   - Introduction to the anthropology of habitat;
   - Notions of occupation: shelter, appropriation, personal space
   - The notion of limit and orientation: Humanized space/non-humanized space, Interior and exterior, The limits of the top and the bottom, The passages and crossing of limits, The oriented layout of space, The house and its directions .
   - The impact of living space on the individual: perception (learning, psychological development, identity) at the individual and group level.
   - Space and behavior: control, power and interaction
   - Influence and projection of lifestyle on housing production
   - Dimensions of housing space: symbol, culture and identity

2. **Discovery outing part:**

Discovery outings are scheduled during semester 4 over a period ranging from 7 days to 15 days maximum in one or more phases. It is recommended that these outputs be managed by the Project Workshop subject. Teachers of project workshops will need to put in place a roadmap setting the objectives according to which students will be evaluated.

It is important to note that for the implementation of these outings, it is strongly encouraged that conventions and exchanges be put in place between the different universities and public or private institutions in order to promote the mobility and exchange of students.
Reception by public or private institutions responsible for project management or architectural and urban project management is desirable.

Assessment :

Attendance at the seminars is compulsory and is validated by an exam which will count for 40% of the overall evaluation of the subject.

The evaluation of discovery outputs will be done on the basis of a report, the form of which is left to the discretion of the teachers in charge and which will count for 60% of the overall evaluation of the subject.

Reference :

*A. RAPOPORT,*For an anthropology of the house. Paris, Dunod, 1972

G. BACHELARD, The poetics of space

JC FABRE, House between Heaven and Earth

D. FORDE, Housing, Economy, Society

Semester 5	(Return to table)
Teaching unit	UEF 5
Matter	Project workshop 5
Coefficient	6
Credit	12

Teaching objectives:
Considered as a "specific method of acquiring architectural knowledge and know-how", the project 5 workshop will have the following mission:

- To move from "conceptualization" to "design", from theoretical representation to the graphic formatting of the object
- To overcome the phobia of the "blank sheet" (problem situation)
- To encourage the emergence of the unifying idea of the architectural project.
- Understand how we make architecture.

It will be based on didactics which will favor reflection as a corollary to design activity.

Recommended prior knowledge
Project workshop 1, 2, 3 & 4
Project theory 1, 2, 3 & 4
HCA 1, 2, 3 & 4

Content of the material:
The architectural project or learning how to develop the project is approached in its functional, structural and formal whole, reducing the degree of uncertainty.

The work in the workshop will be done in various stages:

- A first called understanding the subject and analyzing the program and the context.
- The second stage is an enunciation of the project, through a presentation of the intentions, a materialization of the ideas…

Evaluation method:
100% Continuous Control

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, 1999.
Zevi B,*Learn to see architecture*, ed. de Minuit, 1959.

Semester 5	(Return to table)
Teaching unit	**UEF 5**
Matter	**Project Theory 5**
Coefficient	**2**
Credit	**2**

Teaching objectives:
The third year of the course constitutes the completion of a training process sanctioned by the award of the license. Its aim will be to synthesize a sum of knowledge acquired in terms of architectural knowledge and know-how.

Its fundamental objective will be oriented towards teaching focused on access to methodological design tools and their mastery in the practice of architectural projects.

The theme as an educational support includes, in addition to the "object", the urban dimension as an objective constraint to any prior projection. The relevance will be located in the "contextualization" of the "object" and the dialectic that it will maintain with its environment; impact, integration, scale, accessibility…

Recommended prior knowledge:
Project theory 1, 2, 3 & 4 / Project workshop 1, 2, 3 & 4 / HCA 1, 2, 3 & 4

Content of the material:
- The concept of architectural project.
- Urban and architectural analysis parameters: historical, morphological, functional, landscape.
- Comparative analysis of contemporary and historical projects (context of implementation, program, genesis).
- Program analysis.
- Different conceptual approaches.

Evaluation method:
100% Review

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, Paris, 1999.
ZEVI B,*Learn to see architecture*, ed. de Minuit, 1959.
B. Evers, C. Thoenes, (2011),*Theory of architecture, from the renaissance to the present day*, Taschen, Cologne.

Semester 5	(Return to table)
Teaching unit	**UEF 5**
Matter	**Critical History of Architecture 5**
Coefficient	**4**
Credit	**4**

Teaching objectives

The aim is to enable the student to classify, by their style and typology, architectural testimonies and forms of expression and to introduce them to the interpretation of architecture as reflections of socio-cultural interactions. The subject must be taught in such a way as to promote and develop a spirit of critical analysis of the entire built environment in the student.

Recommended prior knowledge

Critical history of architecture 1, 2, 3 and 4.
General culture.

Content of the subject

- The notion of style in architecture.
- The foundations of the classical renaissance and the birth of modern thought.
- Mannerist and baroque alternative.
- Neo-classicism in architecture.
- Industrial revolution and illuminism in architecture.
- Historicism and eclecticism.
- Avant-garde architecture (art nouveau, Chicago school, etc.).

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam.**(60% Examination, 40% Continuous assessment)**

References

BENEVOLO, L.(1988),*History of modern architecture*, Volume 1 and 2, Paris, Dunod.
BENEVOLO, L.(1983),*History of the city*, Marseille, Éditions Parenthesis.
CHOAY, F.(1965),*Urban planning, utopias and realities*, Paris, the Seuil.
f.CONTI, MC GOZZOLI, (1998) Knowing art, Roman, Gothic, Baroque, Renaissance, Comptoir du Livre, Paris.
OVEN, M. (2012), Critical history of architecture, Algiers, OPU.
GIEDION, S.(2004), Space, Time, Architecture, Paris, Denoël.
ZEVI, B.(1959),*Learn to see architecture*, Paris, Éditons de Minuit.
ZEVI, B.(2015),*The modern language of architecture*, Marseille, Parentheses.
B. EVERS, C. THOENES, (2011),*Theory of architecture, from the renaissance to the present day*, Taschen, Cologne.

Semester 5	(Return to table)
Teaching unit	**EMU 5**
Matter	**Introduction to urban planning**
Coefficient	**1**
Credit	**2**

Subject objectives

Equip the student with a body of historical and theoretical knowledge capable of allowing him to draw from it and construct the references necessary for any discourse or intervention on the urban.

Content of the subject

The first part will be devoted to an understanding of concepts and notions about the city, history of the city, town planning and urbanization according to a theoretical approach: introduction to town planning, definition of the city according to disciplines, etc.

The second part, for its part, will focus on the city in relation to urban planning and questions on the realities of contemporary urban planning and the multiple crises of the city. Also the student is called upon to familiarize himself and understand that town planning is not only a change of scale in relation to architecture, but also is above all to confront very complex realities and the problems of the city are technical, land, economic and socio-political. Environmental concerns add to this complexity.

The third part of this subject will present the founding theories of town planning:

Expose in their contexts the main currents of thought, movements of ideas (of the last two centuries) and the techniques which have governed the constitution of our current territories and urban fabrics

Acquire approaches and develop analytical and critical skills regarding urban interventions and the theories associated with them. The final objective of this part is to simply explain to students that the instruments and tools which they will one day have to use often refer to theoretical, ideological and political considerations on the territory and urban space.

Evaluation method:

100% Review

Bibliographic references:

Lewis MUNFORD The city through history Seuil Paris 1964
Marcel PORTE Introduction to town planning and Pierre LAVEDAN, all the works are important
Camillo SITTE the art of building cities l'Equerre Paris 1980
Raymond UNWIN Practical studies of city plans Parentheses 2012
Alain CHARRE Art and urban planning PUF 1983
Françoise CHOAY Urban planning, utopias and realities Seuil 1965, The rule and the model, Seuil 1980
Howard EBENEZER The garden cities of tomorrow Dunod 1969
Le Corbusier The charter of Athens Seuil 1971, Urban planning Collection EN 1992, Way of thinking about urban planning 1966
Leonardo BENEVELO History of the city Parentheses 1983
Aldo ROSSI The architecture of the city L'Equerre 1984
Paul CLAVAL The logic of cities Litec 1981
Pierre MERLIN Urban planning techniques PUF 1995, Urban planning PUF 2007
Marcel RONCAYLO Readings of cities, form and time, Parentheses 2002, The city and its territories Gallimard 1990
Jean PAUL LACAZE Urban planning methods PUF 1997, Introduction to urban planning Aube 1996, Renewing urban planning P&CHAUSSEES 2000
ASHER, A. (2010), The new principles of urban planning (+ glossary of the plural city), Paris, Les éditions de l'aube.
SECCHI, B.(2009), The city of the twentieth century, Paris, Editions Recherches.

Semester 5	(Return to table)
Teaching unit	**EMU 5**
Matter	**Spatial planning and development 1**
Coefficient	**2**
Credit	**3**

Subject objectives*:*
Urban planning is not only the art of organizing space, but also the art of organizing "living Together" in the urban environment. As a result, the act of planning, which draws its strength from a legal basis and the rules resulting from a prior planning act and which involves a multitude of actors, also requires knowledge of the territory as well as that of the methods of its organization and the means of its implementation. Mastery of the urban in its complexity implies in-depth teaching of town planning practices to architects, the first artisans of urban project management in Algeria. The teaching provided within the "Spatial planning and development" unit aims to give students the ability to:

- to analyze and understand space at its different scales
- to learn about territorial and urban planning methods and techniques
- to know how to read and use town planning documents
- to design a development project for an urban space

The first semester is essentially devoted to an in-depth approach to the scale of a territory.

Content of the material:
Practical in an urban planning workshop.
I. Introduction to understanding interventions on territory:
1. The notions of planning and spatial development.
2. Planning models (strategic, tactical, operational)
3. Development scales, territorial divisions and the notion of the development perimeter.
4. Action strategies on the territory and in the urban area.
5. The logic of actors and city policy.
II. Town planning documents:
1. Multi-scale reading of space (methods and objectives)
2. Qualitative and quantitative diagnosis and programming
3. The concept of town planning requirements and town planning documents (specifications, conservation and development plans, protection plans, development plans)
4The actors and means of implementing the development project.

Evaluation method:
100% Continuous Control

References*(books and handouts, websites, etc.)*
CHALINE C., City policies, What do I know?, PUF Paris 2000
SAIDOUNI M., Introductory elements to town planning, Casbah, Algiers 2000
RONCAYOLO M., The city and its territories, Gallimard, Paris 1990
MERLIN P., Urban planning techniques, Que sais-je?, PUF, Paris 1995
LAMIZET B., SANSON P., The languages of the city, Parenthesis, Marseille 1997
MANGIN D., PANERAI P., Urban project, Parentheses, Marseille 1999

INGALLINA P., The urban project, What do I know?, PUF, Paris 2001
PANERAI P., DEPAULE JC, DEMORGON M., Urban analysis, Parentheses, Marseille 1999
RIBOULET P., Eleven lessons on urban composition, ENPC Press, Paris 1998
BERQUE A., Median, from middle to landscapes, Reclus, Montpellier 1990
PINON P., Reading and composing public space, MAU, STU, Geneva 1994
LABORDE P., Urban spaces in the world, Nathan, Paris 1996
MERLIN, P.(2010), Dictionary of town planning and development, Paris, PUF.
National Statistical Office(2011), "Urban framework", Statistical collections n° 163, Algiers.
WIEL, M.(1999), The urban transition or the transition from the pedestrian city to the motorized city, Liège, Mardaga.

Recommendations:

This subject constitutes a continuation of the introduction to town planning. This requires greater pedagogical coordination between the two subjects within the unit.

Semester 5	(Return to table)
Teaching unit	**EMU 5**
Matter	**Equipment of frame 1**
Coefficient	**2**
Credit	**4**

Subject objectives

Familiarize the student with the conceptual requirements of the building's interior installations.

Content of the subject

The equipment course does not aim to teach all the theories and methods relating to building equipment in terms of hygrometry (heating, ventilation and air conditioning), sanitary plumbing (drinking water and evacuation). As a whole, the course aims to present the essential theoretical knowledge, the general principles and the material used in the techniques that architects responsible for designing projects, developing specifications and monitoring by coordinating the work must possess. business.

This first semester will develop the following four chapters:

1. Building thermal and heating and air conditioning installations

(Heat transfer phenomena, climatic and thermal aspects, heat balance, different types of heating and air conditioning installations)

2. Building ventilation and mandatory technical ducts

3. Gas installations and technical architectural design requirements

4- Protection of the building against fire

Evaluation method

60% Examination, 40% Continuous assessment

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 5	(Return to table)
Teaching unit	**UET 5**
Matter	**Structure 1**
Coefficient	**2**
Credit	**2**

Subject objectives*:*

This course introduces students to the principles and tools of designing structures intended to be integrated into architectural projects. It explores the capacity of structure to enrich architecture, considering structure as an integral part of architecture and not as a purely technical component.

- Understanding of the principles of structure as a whole and its mechanical behavior in the face of
- different requests.
- Introduction to calculations of reinforced concrete structures.
- introduction to the types of structure and establish a close link with the workshop project

The structural subject must aim to define the different structures likely to integrate the conceptual activity of the project. It's important to :

- define the structures / identify different types / define the different areas of use and application of the different structures studied.

Content of the subject

This semester's program aims to address the main principles of behavior of the building structure and the techniques for prior calculation of its sizing. The following chapters will be developed

- The relationship of structure with architecture
- Fundamental architectural requirements of a structure (stability, resistance, rigidity, etc.)
- Actions and requests
- The notion of scope and form in structures
- Concrete and steel reinforcement seen from the site control and monitoring side.
- Limit state calculations:
    - Actions and requests / Action combinations / Ties, Compressed posts
    - Deflected and shear beams / Shallow and deep foundations.
    - Algerian Seismic Rules and their impact on the design of the building structure.

Evaluation method

60% Examination, 40% Continuous assessment

References

*Dynamic calculation of structures,*Capra A., Davidovici V., Eyrolles, Paris 1984
*Build seismic,*Zacek M., Parentheses 1996
*RPA Algiers*2003
-Architectural Structures Edwardo Torroja
-How is it holding up? Mario Salvadori
-How does it happen? Matthys Levy and Mario Salvadori
-Structure as architecture by Andrew W Charleson
-The art of structures, A Muttoni
-Architectural Structures for Engineers and Architects by Philip Garriso

Semester 5	(Return to table)
Teaching unit	**UET 5**
Matter	**Modeling and simulation (BIM) 1**
Coefficient	**1**
Credit	**1**

Subject objectives*:*

Introduction and initiation to BIM technology. Presentation of the particularity of this technology through the establishment of exchanges between the different disciplines taught in order to simulate the project produced in the workshop with the different BIM-oriented simulation software.

Content of the subject

Presentation of the history and context of the appearance of BIM (IFC, IAI)
Choice of BIM-oriented modeling software, preferably among software belonging to the same suite as the software covered in the CAD subject (so that the student perceives the difference between the two types of modeling)

Identification of the different types of simulations that will be carried out during the next semester.

Depending on the type of simulation chosen, identification of the information necessary for the construction of the digital model which will be built and simulated during the following semester.

Evaluation method

100% Review

References

to be defined according to each teacher and each software taught

recommendation :
It is recommended that one 3-hour tutorial be organized per fortnight (every 2 weeks).
it is recommended to limit the size of the modeled and simulated project

Semester 6	(Return to table)
Teaching unit	**UEF 6**
Matter	**Project workshop 6**
Coefficient	**6**
Credit	**12**

Teaching objectives:
The exercise will be an extension of the initiatory phase of the previous semester and will seek to capitalize on the acquired knowledge. It will focus on the personalization of the methodological approach around a complex and more elaborate problem (large-scale urban project). In addition to technical considerations, the aesthetic and semiotic dimensions must be approached in order to shape the image of the projected object.

Recommended prior knowledge
Project Workshop 1 to 5
Project theory 1 to 5
HCA 1 to 5

Content of the material:
The content is structured around the following axes:

- Deepening the theme, analysis of the functional specificities of a neighborhood facility planned in the project (analysis of examples: conditions of location, composition, accessibility, security, functionality, comfort, architectural formalization, construction techniques adapted, materials)
- Architectural programming of the planned equipment
- Equipment design (sketch and preliminary draft)

The scales covered will be those of the sketch and that of the preliminary project. At this stage, the design of the project requires making technological choices and implementation of the project (structure, materials, etc.). To do this, the workshops are supervised by the collective of architectural teachers assisted by engineers.

Evaluation method:
100% Continuous Control

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, Paris, 1999.
ZEVI B,*Learn to see architecture*, ed. de Minuit, 1959.

Semester 6	(Return to table)
Teaching unit	**UEF 6**
Matter	**Project Theory 6**
Coefficient	**2**
Credit	**2**

Teaching objectives:
Acquisition of methodological design tools remain unchanged

Favor the creative and didactic aspect, visualize the project in its 3rd dimension, use various means of communication.

Recommended prior knowledge:
Project theory 1 to 5
Project Workshop 1 to 5
HCA 1 to 5

Content of the material:

- Use of the sketch and the model as a means of expression and visualization of the object in order to reduce the uncertainties linked to the project.
- Targeted bibliographic support.
- Morphological study of the essential elements of form and space.
- Principles and elements of architectural composition, types of spatial organization.
- Notions on the elements of architectural design.
- Qualification of the place, articulation of the project to the place.

Evaluation method:
100% Review

References
Boudon Ph., Teaching architectural design, ed. La Villette, Paris, 1994.
Mazouz S, Elements of architectural design, Office of University Publications, Algiers, 2004.
Mestelan P., Order and rule, Presses Poly. Romandes, Lausanne, 2005.
Prost R., Architectural design, a methodological investigation, 1992.
Tric O., Design and architectural project, ed. L'Harmattan, Paris, 1999.
ZEVI B,*Learn to see architecture*, ed. de Minuit, 1959.

Semester 6	(Return to table)
Teaching unit	**UEF 6**
Matter	**Critical History of Architecture 6**
Coefficient	**4**
Credit	**4**

Teaching objectives

It is a question of continuing the analysis of the influence of the context and of the various socio-economic facts on urban and architectural production. It is also about acquiring the methodological instruments necessary for reading architectural language and forming critical judgment.

Recommended prior knowledge

Critical history of architecture 5.
General culture.

Content of the subject

- The new urban visions of the 19th century (Haussmann, Cerda, etc.).
- The formation of the modern movement (Bauhaus, Le Corbusier, etc.).
- The CIAMs.
- The crisis of modernity and the appearance of post-modernism.
- Current trends (Deconstructivism, Neomodernism, etc.).
- The urban and architectural utopias of the future.

Evaluation method

The evaluation will be carried out on the basis of a collection of corrected tutorials, short questions and a half-yearly exam.**(60% Examination, 40% Continuous assessment)**

References

BENEVOLO, L.(1988),*History of modern architecture*, Volumes 3 and 4, Paris, Dunod.
FRAMPTON, K.(1985),*Modern Architecture, a critical history*, Paris, Éditions Philippe Sers.
JENKS, C.(1977),*Modern movements in architecture*, Brussels, Mardaga.
NORBERG-SCHULZ, C.(1981), Genius Loci, Brussels, Pierre Mardaga.
NORBERG-SCHULZ, C.(1988),*Logical System of Architecture*, Brussels, Pierre Mardaga.
NORBERG-SCHULZ, C.(1997), Meaning in Western Architecture, Brussels, Pierre Mardaga.
PANERAI, P., CASTEX, J., DEPAULE, JC.(1997), Urban forms, from the block to the bar, Marseille, Parentheses.
RAGON, M.(1991), World history of modern architecture and urban planning (3 volumes), Paris, Seuil.
ROSSI, A.(1981), Architecture of the city, Paris, L'Équerre.
ROWE, C., KOETTER, F.(1993), Collage City, Paris, Center Georges Pompidou.
VON MEISS, P.(1986),*From form to place. An Introduction to the Study of Architecture*, Lausanne, PPUR.

Semester 6	(Return to table)
Teaching unit	**EMU 6**
Matter	**Spatial planning and development 2**
Coefficient	**2**
Credit	**3**

Subject objectives*:*
The second semester is devoted to deepening the local scale of approach (communal, district or part of the city), its urban policies, development actions and its planning instruments and tools, from the perspective of various actor logics. This program prepares students to approach the notion of complex urban projects in depth in a fourth-year project workshop.

Content of the subject
The municipality and local planning instruments:
1. Urban analysis (methods and objectives):
    - analysis of historical development
    - analyzes of the existing state (spatial and a-spatial)
    - prospective analyzes (potentialities/assets, weaknesses/threats)
    - strategic analyzes (multi-criteria) and the construction of development scenarios
2. The concept of diagnosis and terms of reference
3. Qualitative and quantitative planning programming and the notion of special studies:
    - technical-economic studies
    - impact, feasibility and profitability studies
4. Development actions:
    - in the context of urban renewal
    - as part of major urban projects (university campuses, hospital centers, amusement parks, tourist parks, activity zones, communication hubs, new towns, etc.)
5. Legal tools for urban planning in Algeria (legislative and regulatory)
6. Urban planning actors and procedures.

Example exercise:
Reading of regulatory planning instruments (PDAU, POS) urban analysis: social, economic, urban (built, unbuilt, networks) natural environment (definitions, environmental reading parameters, landscape reading parameters) notions of ownership and land control
Examples of major urban projects

Evaluation method:
100% Continuous Control

References(books and handouts, websites, etc.).
CHALINE C., City policies, What do I know?, PUF Paris 2000
SAIDOUNI M., Introductory elements to town planning, Casbah, Algiers 2000
RONCAYOLO M., The city and its territories, Gallimard, Paris 1990
MERLIN P., Urban planning techniques, Que sais-je?, PUF, Paris 1995
MANGIN D., PANERAI P., Urban project, Parentheses, Marseille 1999
INGALLINA P., The urban project, What do I know?, PUF, Paris 2001

PANERAI P., DEPAULE JC, DEMORGON M., Urban analysis, Marseille 1999
BERQUE A., Median, from middle to landscapes, Reclus, Montpellier 1990
LABORDE P., Urban spaces in the world, Nathan, Paris 1996
GENESTIER PF, Towards a new urbanism. How to build the city? Paris 1996
LYNCH K., See and plan, Dunod, Paris 1982
MOORE R., The Ecology of a Neighborhood Playground: Implications for Planning, Design and Management, DLA, University of California, Berkeley 1973
MERLIN, P.(2010), Dictionary of town planning and development, Paris, PUF.
National Statistical Office(2011), "Urban framework", Statistical collections n° 163, Algiers.
WIEL, M.(1999), The urban transition or the transition from the pedestrian city to the motorized city, Liège, Mardaga.

Legal texts and regulatory instruments for town planning in Algeria

Semester 6	(Return to table)
Teaching unit	**EMU 6**
Matter	**Tools and instruments for development and town planning in Algeria**
Coefficient	**1**
Credit	**2**

Subject objectives*:*
The objective of the subject is to introduce the student to space management, its instrumental aspect, its actors and its impact on the territory in Algeria.

Content of the material:

INTRODUCTION :general information on the emergence of the city in the Algerian space and the sustained demo-urban growth since independence

THE FOUNDATIONS OF TERRITORIAL AND URBAN LEGISLATION

- The legacy of spatial organization and the aftereffects of colonization in space
- The overhaul of post-independence territorial organization and the major changes 1974-1990
- New instruments and new actors in spatial organization from 1990

DECISION-MAKING PROCESSES

- The main orientations of land use planning
- The mechanisms of territorial and urban planning
- Theoretical roles and real roles of local authorities (Wilaya, Commune)

POLICY AND PROCEDURES

- The development of land use plans and town planning plans and their content
- 10 02 of 06 29, 2010 relating to the SNAT, content and limits
- Urban planning instruments
- General rules for development and town planning, the usefulness of a town planning code
- Town planning acts in Algeria: town planning certificate, permitotir, certificate of subdivision, building permit, certificate of conformity, demolition permit

Evaluation method

100% Review

Reference

Decree No. 63-189of May 16, 63, relating to the territorial reorganization of the communes.
Law No. 84-09of February 4, 1984, relating to the territorial organization of the country
Law n°87-03of January 27, 1987 relating to regional planning.
Law No. 90-25of November 18, 90 relating to land orientation.
Law No. 90-29of December 1, 90 relating to development and town planning.
Law No. 01-20of December 12, 2001 relating to the planning and sustainable development of the territory
Law No. 06-06of February 20, 2006 establishing the city's orientation law;
Law No. 10-02of June 29, 2010 approving the national land use planning plan.
Ordinance No. 74-69of July 2, 1974, relating to the overhaul of the territorial organization of the wilayas.

Semester 6	(Return to table)
Teaching unit	**EMU 6**
Matter	**Equipment of frame 2**
Coefficient	**2**
Credit	**4**

Subject objectives

Familiarize the student with the conceptual requirements of the building's interior installations.

Content of the subject

The second semester is devoted to mastering the problem of supply and distribution of drinking water in buildings and sanitary plumbing installations. The following chapters will be developed:

1. Drinking water supply systems
2. Building sanitation systems
3.Sanitary plumbing (pipes, tanks, water tanks, water towers, sizing, construction standards and rules)
4. Special processes(renewable energies)

Evaluation method

60% Examination, 40% Continuous assessment

Bibliographic references: To be defined by the teacher at the start of the semester

Semester 6	(Return to table)
Teaching unit	**UET 6**
Matter	**Structure 2**
Coefficient	**2**
Credit	**2**

Subject objectives*:*

Analysis and understanding of the importance of the choice of structure in the design of the architectural project.
This subject must have a close link with the workshop project
The structural subject must aim to define the different structures likely to integrate the conceptual activity of the project. It's important to :

- define structures
- identify different types
- to define the different areas of use and application of the different structures studied

Content of the subject

1. Introduction to the different medium and long span structural systems.
2. Introduction to the mechanical behavior of systems and the associated constructive provisions (triangulation, prestressing, three-dimensional, mesh, shells, membranes, etc.
3. Introduction to the use of structure software.
4. Analysis of the structural choices of major projects around the world (Rodgers, Calatrava, Pei, Andreu, etc.) .
5. Types of structures (Horizontal systems, vertical systems)
6.Large span structures (compressed arc-based structures, tensile cable-based structures, etc.)
7.Lattice-based spatial structures

Evaluation method

60% Examination, 40% Continuous assessment

References

Structure and architecture, Salvadori M., Heller R., Eyrolles, Paris 1976
The representation of constructive structures, Gheorghiu A., Dragomir V., Eyrolles, Paris 1968
*Structures of modern architecture,*Siegel C., Verlag, Munich 1970

Semester 6	(Return to table)
Teaching unit	**UET 6**
Matter	**Modeling and simulation 2**
Coefficient	**1**
Credit	**1**

Subject objectives*:*
Application of the different commands learned during the previous semester to model a project or part of the architectural project designed in the workshop (preferably a project produced in the workshop during the semester).

Content of the subject
Construction of the digital model of the project produced in the workshop and identification of the different user profiles who will intervene on this model.

(The user profiles must be defined at the start of the semester with the teachers participating in the exchange to set up the various simulations which will be carried out at the end of the semester and introduce the notion of project management).

Evaluation method
100% Review

References

To be defined according to each teacher and each software taught

Recommendation :
It is recommended that one 3-hour tutorial be organized per fortnight (every 2 weeks).
It is recommended to limit the size of the modeled and simulated project.

IV. Agreements / Conventions

STANDARD LETTER OF INTENT

(In case of license co-sponsored by another academic establishment)

(Official paper on the header of the university establishment concerned)

Object : Approval of co-sponsorship of the license entitled “Architecture”

The university (or university center) hereby declares to co-sponsor the license mentioned above throughout the license authorization period.

To this end, the university (or university center) will assist this project by:

- Giving his point of view in the development and updating of teaching programs,
- Participating in seminars organized for this purpose,
- By participating in defense juries,
- By working to pool human and material resources.

SIGNATURE OF THE LEGALLY AUTHORIZED PERSON:

FUNCTION :

DATE :

STANDARD LETTER OF INTENT

(If licensed in collaboration with a user sector company)

(Official company letterhead)

OBJECT : Approval of the project to launch a degree course entitled “Architecture”

Provided to:

The company hereby declares its willingness to demonstrate its support for this training as a potential user of the product.

To this end, we confirm our support for this project and our role will consist of:

Give our point of view in the development and updating of educational programs,
Participate in seminars organized for this purpose,
Participate in defense juries,
Facilitate as much as possible the reception of interns either as part of end-of-study theses or as part of tutored projects.

The means necessary to carry out the tasks incumbent on us to achieve these objectives will be implemented on a material and human level.

Mr. (or Madam)*…….is designated as external coordinator of this project.

SIGNATURE OF THE LEGALLY AUTHORIZED PERSON:

FUNCTION :

DATE :

OFFICIAL STAMP OR COMPANY SEAL

V. Brief CV of the teaching team mobilized for the specialty

(Internal and external / according to attached model)

Brief CV

Name and first name: BELAKEHAL Azeddine

Date and place of birth : April 10, 1967 in Biskra

Email and telephone: a.belakehal@biskra-univ.dz/ 0772944222

Grade : Teacher

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- Architect, Institute of Architecture of Biskra, June 1991
- Master's degree in Architecture with very honorable mention, Option Architecture of arid and semi-arid environments, Institute of Architecture of Biskra, June 1996.
- Doctorate in Sciences with very honorable mention, architecture sector, Department of Architecture, Mohamed KHIDER University, Biskra, January 2007.
- University accreditation, Department of Architecture, Mohamed KHIDER University, Biskra, October 2009.

Professional teaching skills (subjects taught in graduation)

- **'**Project theory' (2nd Year License): since 2009-2010.
- 'Project' (2nd Year License): since 2009-2010.
- 'Ambiances' (2nd Year Master Urban and Architectural Heritage in the Sahara): since 2013-2014.
- Morphological analysis' (2nd Year Master Urban and Architectural Heritage in the Sahara): 2016-2017.

Brief CV

Name and first name: ZEMMOURI Noureddine

Date and place of birth : April 22, 1960 Oued Taga

Email and telephone: zemmouri.n@univ-biskra.dz Tel:0550856373

Grade : Teacher

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- State Architect Diploma June 1984 University of Constantine.
- Mphil Architecture and Building Engineering November 1987 University of Bath England.
- State doctorate in Architecture October 2005 University of Sétif.

Professional teaching skills (subjects taught, etc.)

- Project theory 1 & 2.
- Architecture and Urban Planning Modeling 1 &2.
- CAD.
- Urban planning.
- 1st year Architecture Workshop.
- 3rd Year Architecture Workshop.

Brief CV

Name and first name: BOUZAHER Soumia

Date and place of birth :23-10-1975 Biskra

Email and telephone:Lalouanisoumia@yahoo.fr/ telephone: 0662177954

Grade : Lecturer “A”

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- **July 1992**Bachelor of Natural Science.
- **September 1999.**Architect diploma.
- **December 2004**obtaining a Master's degree in architecture under the title "The elements of visual identification and spatial orientation in the street"
- **March 2015**Obtaining a “state doctor” diploma. under the title “Sustainable development through an ecotourism project; Case of the ksour of the Ziban micro region. The recovery of an ecotourism circuit. » at the Department of Architecture of Mohamed Khider Biskra University.
- **December 2016**Obtaining a diploma in “Accreditation to direct university research”. at the Department of Architecture of Mohamed Khider Biskra University.

Professional teaching skills (subjects taught, etc.)

- French terminology Directed Work (1st year classic).
- Workshop (introduction to drawing and architecture) (1st year classic).
- Workshop (analysis, integration and design of habitat) (classic 2nd year).
- Workshop (analysis, design of equipment) (3rd year classic).
- Urban Planning Course + tutorial (5th year classic).
- Workshop (analysis, integration and design of habitat) (2nd year license).
- Workshop (model and architectural survey) (2nd year license).
- Urban planning and spatial development (3rd year license).
- History of Cities Course + tutorial (1st year Master, urban project option).
- Urban ecology TD (1st year Master, urban project option).
- The seminar subject (2nd year Master, urban project option).

Brief CV

Name and first name: SELATNIA Khaled

Date and place of birth :08/19/1981 in Souk Ahras

Email and telephone:ar_kaled@yahoo.fr/ 0556 83 81 21

Grade : Lecturer “A”

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- State engineering diploma in architecture (architect), from Mohamed Kheider University - Biskra, specialty: architecture, promotion: June 2005. Honors.
- Master's degree in Architecture. Option: human settlements in arid and semi-arid zones, faculty of science and technology, Mohamed Kheider Biskra University, year 2009/2011. Honors .
- Doctoral degree in Architecture, Option: human settlements in arid and semi-arid zones, faculty of science and technology, Mohamed Kheider University, Biskra.2015. Very honorable mention.
- Habilitation led research work, Mohamed Kheider University, Biskra. December 2016.

Professional teaching skills (subjects taught, etc.)

- Architectural project 1st year LMD
- Architectural project 2nd year LMD
- Models and 2nd year LMD report
- Urban planning and spatial planning 3rd year LMD
- Urban planning 4th year classic.
- Supervision of more than ten state architects.
- Supervision of fifteen Master theses, option: Urban project.

Brief CV

Name and first name: ZERROUG Abdelhamid

Date and place of birth :07/03/1960 in Ain-Touta

Email and telephone:zerroug60@gmail.com Such ; 0671605900

Grade : Lecturer "A"

Establishment or institution of connection: Department of Mathematics, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- **Diploma .Study .Sup (DES)**"Differential geometry" 83/84 University of Batna
- **Diploma.Study. Deepened (DEA) «**Mathematics applied to economic sciences » 1985/86 University of Dauphine PARIS 9.
- **Magisterium.**"Mathematical bio" University of Renet separates PARIS 5 and University of Constantine 1986/1990.
- **Ph.D**"Mathematical bio. » University of Biskra.1995/2010.

Professional teaching skills (subjects taught, etc.)

- Lecturer in Maths……Ecole de Sèvre France from 1987/1988
- Research Directorfrom 2002/2004 Image synthesis image analysis mathematics applied to imaging; Modeling and deformation of three-dimensional objects project code .B*0701/04/02
- Teaching activities:
- Topology – Numerical analysis-Algebra
- Trainee Assistant Master: from 09/14/1988 to 10/13/1990, Full-time Assistant Master: from 10/14/1990 to 11/23/1992, Course Assistant Master: from 11/24/1992 to 07/15/ 2010, Lecturer "A": since 07/15/2010; Member of the Doctoral Students Educational Committee, academic year 2012/2013, 2013/2014 and 2014/2015.

Name and first name: SEKHRI Adel

Date and place of birth :14November1979 in M'chedallah (Bouira)

Email and telephone:sekhri.adel@yahoo.fr/ 0661147956

Grade : Class “A” Assistant Master

Establishment or institution of connection: Department of Architecture, Faculty of Science and Technology, Mohamed KHIDER University, Biskra, Algeria.

Diplomas obtained (graduation, post-graduation, etc.) with date and place of obtaining and specialty:

- **June 1997:**Baccalaureate: Natural Science Series, High School: Kérouani - SETIF.
- **December 2002:**Diploma of State Architect,Department of Architecture, Ferhat Abbas University, Sétif.
- **June 2005:** Magister Diploma in Architecture, Option: architecture, history and society, mention “GOOD”, Department of Architecture, Ferhat Abbas University, Sétif.

Professional teaching skills (subjects taught, etc.)

- **Workshop**– 1st year architecture (Classical System).
- **Workshop**– 2nd year architecture (Classical System).
- **Workshop**– 3rd year architecture (Classical System).
- **Workshop**– 4th year architecture (Classical System).
- **Workshop**– 5th year architecture (Classical System).
- **Codified drawing of architecture 1**& 2 (Semester 1 & 2) – 1st year Architecture license (LMD System).
- **Discovery of architectural tools**(Semester 1) / Introduction to the project (Semester 2) – 1st year Architecture license (LMD System).
- **Project 1**& 2 (Semester 1 & 2) – 1st year Architecture license (LMD System).
- **Project 1 + Memory** (Semester 3) / Project 2 + Dissertation (Semester 4) – 2nd year Master, Specialty: Urban and Architectural Heritage in the Sahara (M2 PUAS).

Annex :

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'ENSEIGNEMENT SUPERIEUR
ET DE LA RECHERCHE SCIENTIFIQUE

Arrêté n°506 du - 4 SEP. 2011

portant habilitation de licences ouvertes au titre de l'année universitaire 2011-2012
à l'université de Biskra

Le Ministre de l'Enseignement Supérieur et de la Recherche Scientifique,

- Vu la loi n°99-05 du 18 Dhou El Hidja 1419 correspondant au 4 avril 1999, modifiée et complétée, portant loi d'orientation sur l'enseignement supérieur,
- Vu le décret présidentiel n° 10-149 du 14 Joumada Ethania 1431 correspondant au 28 mai 2010, portant nomination des membres du Gouvernement,
- Vu le décret exécutif n°94-260 du 19 Rabie El Aouel 1415 correspondant au 27 Août 1994, fixant les attributions du ministre de l'enseignement supérieur et de la recherche scientifique,
- Vu le décret exécutif n°08-265 du 17 Chaâbane 1429 correspondant au 19 août 2008 portant régime des études en vue de l'obtention du diplôme de licence, du diplôme de master et du diplôme de doctorat,
- Vu le décret exécutif n°98-219 du 13 Rabie El Aouel 1419 correspondant au 7 juillet 1998, modifié et complété, portant création de l'université de Biskra,
- Vu l'arrêté n°129 du 4 juin 2005 portant création, composition, attributions et fonctionnement de la commission nationale d'habilitation,
- Vu le Procès Verbal de la réunion de la Commission Nationale d'Habilitation du 31 mars 2011.

ARRETE

Article 1er : sont habilitées, au titre de l'année universitaire 2011-2012, les licences académiques (A) dispensées à l'université de Biskra conformément à l'annexe du présent arrêté.

Art. 2 : Le Directeur de la Formation Supérieure Graduée et le Recteur de l'université de Biskra sont chargés, chacun en ce qui le concerne, de l'application du présent arrêté qui sera publié au bulletin officiel de l'enseignement supérieur et de la recherche scientifique.

Annexe : Habilitation de Licences Académiques
Université de Biskra
Année universitaire 2011-2012

Domaine	Filière	Spécialité	Type
Sciences et Technologies	Génie électrique	Electronique	A
	Hydraulique	Sciences de l'eau et de l'environnement	A
	Architecture et Urbanisme	Architecture	A
Lettres et Langues Etrangères	Langue Anglaise	Linguistique appliquée	A

VI. Opinions and Visas from Administrative and Consultative Bodies

Title of the License: LICENSE IN ARCHITECTURE

Chef de département + Responsable de l'équipe de domaine
Date et visa 14 MAI 2017 Date et visa د.خالد سلاطنية 14 MAI 2017
Doyen de la faculté (ou Directeur d'institut)
Date et visa : 2017 ماي 14 عميد الكلية أ.د ملاس مكي
Chef d'établissement universitaire
Date et visa أ.د عبدالواحد شالة 14 Mai 2017

VII. Notice and Visa of the Regional Conference

(Only in the final version sent to the MESRS)

VIII. Opinion and Visa from the National Educational Committee of the Domain

(Only in the final version sent to the MESRS)

Pr.BOUCHAREB Abdelouahab
Président du CPND AUMV.