



## REPUBLIQUE TUNISIENNE

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique

Université de Carthage

Ecole Nationale d'Architecture et d'Urbanisme

المدرسة الوطنية للهندسة المعمارية والتعمير  
ECOLE NATIONALE D'ARCHITECTURE ET D'URBANISME



## ENAU GRADING SYSTEM

- 1- The Tunisian grading system is similar to French : A 20-point grading scale is used by the educational institutions in Tunisia

Mark	International Grade	Description
20-16	A	Excellent
16-14	B	Very good
14-12	C	Good
12-10	D	Satisfactory
10-8	E	Sufficient
8-0	F	Poor

\* In general, grades above 15 are rarely awarded.

\* A grade of 12 is a good grade to apply for graduate studies and financial aids or scholarships. This is due to the severe testing and evaluation system employed.

- 2- The architectural studies are divided into two cycles, totaling six years of study :

- The first cycle of studies lasts two years.
- The second cycle lasts four years divided into three years of studying and 8 months of professional internship.

The "National Architect Diploma" opens the way directly to the practice of the profession, as well as to scientific research. It is structured within the doctoral school "Architectural Sciences and Engineering", in the form of a PhD in "Architectural Sciences" (LMD scheme).

With the exception of the professional internship year, each year includes modules organized in one or two semesters. Training is provided in the form of workshops, integrated courses, seminars, internships, on-site studies and exercises in innovation and creation.

- 3- Subjects are grouped in modules :

- The module average is the average of the subjects it includes.
- The annual average is the average of the year modules.

\* To succeed the students must have an average of 8 out of 20 for each module, and a yearly average of 10 out of 20. A student succeeds with honors if he obtains an average equal or above 12 out of 20.

\* The attendance in ENAU is compulsory. Only an absenteeism of 10% of the number of hours is allowed, unless the student is automatically deprived of the participation in the main session exams.

\* The evaluation system is based on continuous assessment and final exams (year or semester). The general average calculation = 50% (the continuous assessment marks) + 50% (the final exam).

**Description of studied subjects:**

1- First cycle : first year						
Modules	Course content		Form	hours	Internal coefficient	coefficient
M 1.1 Architectural Design	- Introduction to Architecture - Fundamental concepts - Architectural analysis		Studio	260 h	1	2
M 1.2 Expression and modes of representation	Drawing	Observe, analyze and represent architectural spaces and their volumetric composition.	Studio	104 h	2	2
	Fine Arts	Basic knowledge of visual and graphic language	Studio	104 h	2	
	Descriptive and perspective	Fundamentals of perspective, Monge's Method of Projection.	course	52 h	1	
M 1.3 Science and Technology	Mathematics	Plane geometry and 3D geometry ( isometries and plane similarities )	Course	52 h	1	1
	Building physics	- Static and stability of buildings - Thermal comfort, acoustic comfort, visual comfort and lighting.	Course	52 h	1	
	General Construction	- Basics of civil engineering, presentation of different stakeholders, the stages and operations of construction - Construction history	Course	52 h	1	
M 1.4 Environmental, Social and Human sciences	History of Art and Architecture	- Evolution of architectural styles and techniques ( Ancient architecture, Italian Renaissance, neoclassicism, Modern Movement ) - comparisons, and confrontation of the different styles	Course	52 h	2	1
	Theory of Architecture	contributions of different eras in architectural theory	Course	26 h	1	
	Natural and built environment	- architecture in interaction with its environment - ecological sustainable design	Course	26 h	1	
	Sociology and anthropology of space	- Introduction to social sciences through concepts closely related to architecture. - The social dimension of the space.	Course	52 h	1	
	English	- History of art and architecture (in particular structures, materials, design, etc.) - Spoken and written expression	Course	52 h	1	
Total hours				884 H		

\* The first year of the first cycle includes four compulsory modules.

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2- First cycle : Second year						
Modules	Course content		Form	hours	Internal coefficient	coefficient
M 2.1 Architectural Design	- Introduction to Architecture creation process - Introduction to the methodology of project - Apprehension, analysis and manipulation of formal components of space		Studio	180 h	1	2
M 2.2 Expression and modes of representation	Fine Arts / Architectural Drawing	- Broaden artistic and aesthetic knowledge and develop critical eye - 2D and 3D composition	Studio	104 h	2	2
	Computer-aided design	- Use of Image processing software - 3D and 2D modeling softwares (AutoCAD, Sketchup, etc.)	Studio	52 h	1	
	Descriptive and perspective	Three-dimensional geometry, perspective, studies of shadows, intersections of volumes.	course	52 h	1	
M 2.3 Science and Technology	Strength of materials (RDM)	- Basics of resistance of materials ( different types of forces applied to a structure, static balance, internal forces, limit state - Pre-dimensioning of structural elements (beam)	Course	52 h	1	1
	General Construction	Science and technology of building from design phase until construction (excavation, structure, masonry, coatings, etc.)	Course	52 h	1	
	Materials	- Knowledge of the different materials used in the field of construction ( main properties and parameters determining the choice of materials ) - Drafting materials descriptions and their technical requirements.	Course	26 h	1	
	Typology of structures	- Evolution of construction techniques - The different types of structures (wooden, Metallic, Prestressed concrete structure, etc.)	Course	26 h	1	
M 2.4 Environmental, Social and Human sciences	History of Art and Architecture	History of architecture and painting from the Renaissance until the early twentieth century	Course	52 h	2	1
	Theory of Architecture	- The semiotics dimension of architecture - Renaissance architectural theory - modernity	Course	26 h	1	
	Sociology of inhabited and behavioral psychology	Social sciences and the "transdisciplinary" analysis of architectural and urban space.	Course	52 h	1	
	Sitology and landscape	Site and the landscape in urban planning	Course	26 h	1	
	English	- Roman architecture, design and environment - Enrich English technical vocabulary	Course	52 h	1	
M 2.5 Study Tour	- Study tour for a week in Tunisia for the purpose of awakening the student and his introduction to observation of phenomena and architectural analysis - Application project		on-site study and in Studio	106 h	1	1
Total hours				858 H		

\* The second year of the first cycle includes five compulsory modules.

\* After the end of the year, students are called to complete a practical internship of architecture lasting six weeks.

3- Second cycle : First year						
Modules	Course content		Form	hours	Internal coefficient	coefficient
M 3.1 Architectural Design	- Project methodology - Qualitative programming - Architectural Design		Studio	208 h	1	2
M 3.2 Expression and modes of representation	Fine Arts	Context in relation to art and artistic expression	Studio	52 h	2	1
	Computer-aided design	- Basics of "Building Information Modeling" BIM software REVIT.	Studio	52 h	1	
	Digital Photo/Video	Architecture Photography and videography	Course	26 h	1	
M 3.3 Science and Technology	Construction technologies (Reinforced concrete/Steel...)	- History of reinforced concrete - Mechanical behavior - Dimensioning of structural elements in reinforced concrete - Steel building and design of steel elements	Course	104 h	2	1
	VRD (Infrastructure...)	Roads and networks, topography, earthworks, outdoor facilities, etc.	Course	26 h	1	
	Soils and Foundations	- Introduction to soil mechanics - Physical and mechanical properties of soils - Soil settlement - Dimensioning foundations	Course	26 h	1	
	Architectural Details	Study of details: the constructive system, materials & know-how, function, light, etc. by analyzing architectural references (Egyptian, Roman, Greek, modern and contemporary)	Course	26 h	1	
M 3.4 Environmental, Social and Human sciences	History of Architecture	- The history of Islamic architecture - pre-Islamic architectural heritage : (Mesopotamian, Egyptian, Byzantine, Punic)	Course	52 h	2	1
	History and urban planning theory	Study the birth and the evolution of the city as a complex phenomenon (intellectually, physically, socially and politically, etc.), through a historical and analytical approach.	Course	52 h	2	
	Urban Planning and Economic Development	- Urban history and morphology - Urban development in developed countries - Urban development in developing countries	Course	26 h	1	
	English	- Spoken and written expression - Enrichment of grammar and architecture vocabulary	Course	26 h	1	
M 3.5 Law and Management	Introduction to Law	- Presentation of the legal system : classification of laws - personal commitments, contractual obligations, legal responsibilities, etc.	Course	26 h	1	1
	Construction Law	Rules relating to management, planning and construction of urban space (public or private)	Course	26 h	1	
	Quantity Survey and written documents	- Written documents relating to technical specifications detailed rules and the work regulations. - building quantity survey	Course	26 h	1	
	Safety standards (Security norms)	- basic safety rules of property and people ( implementation rules, Fire resistance, insulation, smoke extraction, rescue and firefighting )	Course	26 h	1	
Total hours				780 H		

\* The first year of the second cycle includes five compulsory modules.

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**4- Second cycle : Second year (Fourth Year of Architecture)**

Modules	Course content		Form	hours	Internal coefficient	coefficient
M 4.1 Architectural Design	- Project methodology - Definition and control settings - Development of construction documents		Studio	104 h	1	2
M 4.2 Expression and modes of representation	Computer-aided design	- REVIT advanced - 3D modeling : 3D Studio Max - Application project using architecture software	Studio	52 h	1	1
	Computer skills / graphics	- Realistic rendering - 3D Modeling and animation - Video editing	Studio	26 h	1	
M 4.3 Science and Technology	Equipment of construction: Sanitary plumbing, Heating, Air conditioning, Electricity	- Sanitary Plumbing : distribution, gas installation, swimming pools plumbing - Heating and air conditioning, ventilation, energy efficient solutions for more efficient heating and cooling. - Electricity : production, transportation, distribution, connection, energy saving, security, lighting, luminaire diagrams, electrical single-line diagram, etc.	Course	104 h	2	2
	Building acoustics	- Laws of acoustics - sound insulation, acoustic correction, control reverberation	Course	26 h	1	
	Building envelope	- The architectural envelope: historical, aesthetic, functional and energetic aspects - thermal envelope (basic concepts, bioclimatic design) / envelope acoustics (isolation of facades) / ventilation ( principles and applications)	Course	26 h	1	
	Pathology of constructions	Building Pathology : Foundations, facades, etc.	Course	26 h	1	
	Construction site organization	- Stakeholders in a construction project - Site management - Construction site planning	Course	26 h	1	
M 4.4 Environmental, Social and Human sciences	History of Architecture	- Modern movement	Course	52 h	2	1
	Heritage Protection	- Conservation of historical monuments (Violet le Duc: France) - Heritage legislation in Tunisia - International charters and conventions (UNESCO-ICCROM - ICOMOS...) - protection tools and types of interventions	Course	26 h	2	
	Environmental impact study	- Sustainability - Environmental Impact Study (EIS) - Tunisian and international legislation - case studies	Course	26 h	1	
	English	-Restoration of old/historical buildings - Health construction - Sustainable architecture - Architecture and other disciplines (sociology, neuro sciences, psychology, etc.)	Course	26 h	1	
M 4.5 Law and Management	Legislation of public markets	- Regulations and procedures	Course	52 h	1	1
	Legal liability	- rights and duties of the architect and the various stakeholders - Common law liability	Course	26 h	1	
	Management, Organization and Ethics	- The architecture profession regulations and organization - The relationship between stakeholders	Course	26 h	1	
M 4.6 Study Tour	- Study tour for a week in Tunisia - Application project		on-site study and in Studio	130h	1	1
Total hours				754 H		

\* The second year of the second cycle includes four compulsory modules.

\* After this year, students are called to complete a practical internship of architecture, lasting six weeks.

5- Second cycle : First semester of the third year (Fifth Year of Architecture)						
Modules	Course content		Form	hours	Internal coefficient	coefficient
M 5.1 Architectural Design	Studio theme : Smart city and sustainable design : - prospective approach ( Tunisia of the future ) - sustainable approach		Studio	104 h	1	1
M 5.2 Expression and modes of representation	Modes of representation	- Representation meaning, concepts and its evolution in space and time. - Representation analyzes - Representation project in relationship with the studio theme.	Seminar	52 h	1	1
M 5.3 Science and Technology	Construction Technology	Smart building technologies : - Automation - Renewable energies - Thermal insulation - Building energy studies	Seminar	52 h	1	1
M 5.4 Environmental, Social and Human sciences	City and architecture : Architecture in sensitive environments and specific areas	- Study of relations between the urban space, the city and the architecture - Landscape design	Seminar	52 h	1	1
M 5.5 Law and Management	Architecture and urban planning	- Urban planning and legislation in Tunisia - Urban policies	Seminar	52 h	1	1
Total hours				312 H		

\* The first semester of the third year of the second cycle includes five compulsory modules.

\* The second semester is devoted to graduation project (personal research on a specific theme leading to the development of an architectural thesis), including:

- A conceptual summary document of around one hundred pages including a part of investigation and analysis and part of presentation of the final project.
- A project directly related to the concept document presented, including all graphic elements.

\* The fourth year of the second cycle in architecture is reserved for the completion of a professional internship in a public or private firm, in Tunisia or abroad, for a minimum of eight (8) months, with the elaboration of an internship report.