

الجممورية الجزائرية الديمقراطية الشعبية Democratic and Popular Republic of Algeria وزارة التعليم العالي والبحث العلمي Ministry of Higher Education and Scientific Research اللجنة البيدالموجية الوطنية لميدان العلوم والتكنولوجيا National Educational Committee for the Science and Technology sector



TRAINING OFFER L.M.D.

ACADEMIC BACHELOR'S DEGREE

NATIONAL PROGRAM 2021–2022

Etablissement	Faculté / Institut	Département

Domain	Sector	Speciality
Science and Technology	Civil Engineering	Civil Engineering

Degree Title: Civil Engineering

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I – License Identity Card

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3- Training Context and Objectives

A – General Organization of the Training: Project Position

Enter in the following diagram the License that is the subject of this framework as well as all the approved licenses (functional or not) at the establishment level and belonging to the same Group of sectors. Specify with an asterisk any other license whose supervision is also provided by a large part of the teachers involved in this current license. Indicate with a double asterisk the frozen licenses. Also mark with (P) any professional type license.



B - Training objectives:

The Civil Engineering Bachelor's degree course aims to provide students with a scientific and technological foundation ensuring mastery of academic and practical knowledge in the various fields of construction. In addition to providing professional skills leading to successful integration into supervisory and management roles within construction companies, as well as project monitoring and control, this Bachelor's degree provides students with basic scientific and specific training that provides them with the ability to assimilate knowledge, enabling them to access higher degrees: the Master's degree and the possibility of preparing for a Doctorate in the various specialties of Civil Engineering.

C – Targeted profiles and skills:

This training aims to train managers for the Civil Engineering, Construction and Public Works sector in general, and more specifically, companies, design offices and expert firms.

Furthermore, we are witnessing the emergence of a field, promising in terms of employability and research, which is undergoing rapid technological development: the development of new materials. These require the introduction of new technologies, new production methods, and new commercial techniques, and consequently a boost in the demand for specialized personnel.

D – Regional and national employability potential:

Professional opportunities at the management level are important in all phases of a construction operation:

- Work scheduling: public sector (local authorities, construction companies).
- Calculation of structures: design offices, engineering firms.
- Work management and monitoring, and quality control of structures: structural and secondary construction companies, inspection offices.
- Maintenance and asset management: technical management, rehabilitation, and development.
- Site monitoring: medium- and large-scale construction projects.

E – Gateways to other specialties:

Semesters 1 and 2 common									
<u>Sector</u>	<u>Specialties</u>								
Civil engineering	Civil engineering								

This degree offers multidisciplinary and cross-disciplinary teaching programs:

Multidisciplinary, in the sense that the courses in this specialty are 100% identical for semesters 1 and 2 with all the specialties in the Science and Technology field. On the other hand, the courses in semester 3 for all the specialties in the same group of sectors are also 100% identical.

Semester	Group of sectors	Common lessons
Semester 1	A - B - C	(30 / 30) Credits
Semestre 2	A - B - C	(30 / 30) Credits
	A – B	(18 / 30) Credits
Semester 3	A – C	(18 / 30) Credits
	B – C	(24 / 30) Credits

In a transversal manner, this Licence offers the student the choice of joining, if he expresses the desire and depending on the teaching places available:

- All other specialties in the ST field at the end of semester 2.

- All specialties in the same group of courses at the end of semester 3.

- All specialties from another group of courses at the end of semester 3 (Subject to conditions of equivalence and opinion of the training team).

- All specialties in the same group of courses at the end of semester 4 (Subject to conditions of equivalence and opinion of the training team).

F – Expected performance indicators of the training:

All training must meet the quality requirements of today and tomorrow. As such, to better assess the expected performance of the training offered on the one hand and by exploiting the flexibility and adaptability of the LMD system on the other hand, a number of mechanisms are proposed, for information purposes, for this degree to evaluate and monitor the progress of teaching, the training programs, student/teacher and student/administration relationships, the future of graduates of this degree as well as the assessments of the university's partners regarding the quality of the graduates recruited and/or the teaching provided. It is up to the training team to enrich this list with other criteria according to its own means and objectives.

The evaluation methods can be implemented through surveys, on-site monitoring of students in training, and surveys of recruited graduates and their employers. To achieve this, a report must be prepared, archived, and widely disseminated.

1. Evaluation of the training progress:

In addition to the regular meetings of the teaching committee, a meeting is held at the end of each semester. It brings together teachers and students from the class to discuss any problems encountered, possible improvements to teaching methods in particular, and the quality of training in general.

To this end, a more or less exhaustive list of indicators and methods envisaged for the evaluation and monitoring of this training project by the educational committee is proposed below:

Before the training:

- Change in the rate of students choosing this degree (supply/demand ratio).
- Rate and quality of students choosing this degree.

During training:

- Regularity of teaching committee meetings.
- Alignment of end-of-cycle project themes with the nature of the program.
- Quality of the relationship between students and the administration.
- Support provided to students experiencing difficulties.
- Student satisfaction rate with teaching and teaching methods.

Downstream of the training:

- Student success rate per semester in this degree program.
- Student dropout rate (failure and withdrawal).
- Identification of the causes of student failure.
- Reorientation alternatives are offered to students who fail.
- Percentage of students who graduate on time.
- Percentage of students who continue their studies after completing their degree.

2. Evaluation of the progress of the lessons:

The teaching in this course is subject to regular evaluation (once a year) by the training team which will be made available, upon request, to the various institutions: National Educational Committee for the Field of Sciences and Technologies, Regional Conferences, Vice-rectorate responsible for education, Faculty, etc.

Therefore, a system for evaluating programs and teaching methods can be established based on the following indicators:

- Equipping classrooms and teaching laboratories with the materials and supports needed to improve teaching (projection systems (data shows), Wi-Fi connection, etc.).
- Existence of a communication and teaching platform where lectures, tutorials, and practical work are accessible to students and their questions are addressed.
- Equipping teaching laboratories with materials and equipment appropriate to the course content.
- Number of actual teaching weeks provided during a semester.
- Completion rate of teaching programs.
- Digitization and preservation of final dissertations and/or final year dissertations.

- Number of practical work sessions completed and the number of practical work sessions per subject (diversity of practical work sessions).
- Quality of the institution's documentary collection related to the specialty and its accessibility. Support from the socio-economic sector for training (company visits, company internships, courses and seminars given by professionals, etc.).

3. Integration of graduates:

A coordination committee, composed of training managers and members of the Administration, is hereby established. Its primary responsibilities are: monitoring the professional integration of graduates from the program, creating a graduate tracking database, identifying and/or updating existing economic and industrial opportunities at the regional and national levels, anticipating and developing new careers related to the program in association with the Chamber of Commerce, various employment support agencies, public and private operators, etc., and participating in any action related to the professional integration of graduates (organizing events with socio-economic stakeholders).

To carry out these missions, this committee has the discretion to conduct or commission any study or survey on the employment and post-employment outcomes of graduates. Below is a list of indicators and methods that could be considered for evaluating and monitoring this operation:

- Graduate recruitment rate in the socio-economic sector in positions directly related to the program.
- Type of jobs held by graduates.
- Diversity of opportunities.
- Establishment of an alumni association.
- Creation of small businesses by graduates of the specialty.
- Employer satisfaction level.

G- Student assessment through continuous assessment and personal work :

G1- Evaluation by Continuous Assessment:

The importance of continuous assessment methods on student learning in terms of educational outcomes is well established. In this regard, Articles 20, 21, and 22 of Order 712 of November 3, 2011, define and specify the methods and organization of continuous assessment for students according to the training program. The calculation of continuous assessment averages (tutorials and practical work) is based on a weighting of all the elements that make up this assessment. These articles specify that this weighting is left to the discretion of the teaching team.

A survey conducted by the CPND-ST among all teachers in the various universities revealed heterogeneity in the implementation of continuous assessment for students. We are therefore forced to acknowledge a real deficit in the effective management of this educational activity, which has required serious reflection on this matter. Combined with proposals from several institutions, this has led to the recommendations below.

Analysis of the various proposals from these institutions has shown that Articles 21 and 22 of Order 712 of November 3, 2011, are indeed insufficiently explicit and deserve further clarification. These articles could be enhanced by taking into account the following points, which represent a summary of the proposals received.

1. Subject-related suggestions with tutorials:

1.1. Preparation of exercise series:

The instructor in charge of the subject must organize the assignments by proposing a series of exercises for each chapter of the course. This series must be comprehensive, with exercises to help students understand the course and sample exercises to be completed during tutorial sessions.

These exercises must be prepared by the student before attending the tutorial session. This preparation may be assessed. The assessment method is left to the discretion of the instructor in charge of the tutorial.

Exercises not completed during the tutorial session may be the subject of individual work to be completed by groups of 3 to 4 students and submitted for assessment (deadline: 1 week).

1.3. Student participation in tutorials:

Student participation must be assessed. The assessment method is left to the discretion of the instructor in charge of the tutorial.

1.4. Student attendance:

Student attendance is mandatory for tutorials and practical work. In lectures, it is difficult to monitor attendance for undergraduate students, where class sizes are very large (lectures in lecture halls). For master's students, where class sizes are small, attendance must be mandatory in lectures and tutorials.

2. Case of methodological units (Practical work):

Just like tutorials, practical exercises must be prepared by the student. The instructor must organize a test to monitor this preparation before each practical session (in the form of short comprehension questions, multiple-choice questions, a diagram of the practical session, etc.). A report (per working group) must be submitted at the end of the practical session. To this end, the instructor must prepare a standard report (outline) to facilitate the students' work so that they can effectively submit it at the end of the practical session.

At the end of the semester, the instructor organizes a practical test that summarizes all the practical work completed by the student.

3. Regarding cross-curricular and discovery subjects that do not have tutorials or practical work:

It is very difficult to conduct continuous assessments in these subjects due to the absence of tutorial sessions and the very large number of students in most cases, particularly for universities with very large enrollments.

Nevertheless, the instructor in charge of this subject may, if they wish, inform students that they may be able to assess them (continuously) by asking them to prepare presentations, write reports, research course supplements, use free software, ask students to watch a popular science film related to the subject at home (after providing them with either the film electronically or providing them with an internet link to it) and then ask them to submit a written report or give an oral presentation summarizing the film, etc. The credits for these activities are left to the discretion of the instructor and the training team, who alone are qualified to determine the best way to factor this personal work into the overall grade for the final exam.

Along the same lines, and if the number of students in this subject is reasonable (20 to 30 students), which may be the case for many master's programs, the head of the subject may consider ongoing student assessments similar to those used in tutorial-based subjects. The only requirement is that students be informed of this procedure and validated during the first Academic Council meeting.

In any case, the instructor and teaching staff are free to include any type of assessment they deem appropriate to encourage students to take better charge of their studies and, at the same time, combat student absenteeism from classes.

4. Harmonization of continuous monitoring:

Using a common assessment grid would promote the harmonization of these practices from one instructor to another, from one department to another, and from one institution to another. It would also provide a structuring and reassuring benchmark for students. To this end, we propose below an indicative assessment grid that presents the various continuous assessments used to evaluate the degree of student skill acquisition, whether in terms of knowledge, analytical skills, or synthesis abilities.

It should be noted that these assessments are not intended to "trap" students by imposing very difficult continuous assessments. On the contrary, the aim is to "honestly" assess the degree to which the student has assimilated the various skills and knowledge taught to them, in complete objectivity. In the same spirit, we would gain by promoting the contractualization of learning assessment by specifying, for example, the success criteria and good practices that would lead to correct and precise answers to questions. Thus, the assessment would focus mainly on the acquired knowledge that was the subject of training by giving exercises related to what was prepared in TD without forgetting, however, to evaluate the students' ability to mobilize their skills in more complex situations.

4-1 Directed work:

Preparation of series of exercises and personal work (homework to be submitted, presentations, etc.)	30%	06 points
Written questions (minimum 2 questions including one proposed by the subject manager)	50%	10 points
Student participation in TD	20%	04 points
Total	100%	20 points

4.2 Practical work:

Practical work preparation tests	20%	04 points
Report (must be submitted at the end of	4006	09 points
the practical session)	40%	uo points
Practical test at the end of the semester on		
all the manipulations carried out by the	40%	08 points
student.		
Total	100%	20 points

G2- Student's personal work:

The student's personal work is part of the LMD's ethos. A very substantial amount of time has been allocated to it each week: approximately 50% of the total course time (see the "Overall Training Summary" table in this course offering).

A survey conducted by the CPND-ST among training teams across all university institutions indicated that time spent on student personal work could be used judiciously, under good instructor supervision, rationally, and in a variety of ways. The tasks completed by volunteer students would be assessed and counted (as a bonus) in their overall continuous assessment grade. The rate of this bonus is left to the discretion of the teaching teams.

The synthesis of the different proposals can be summarized in the following points:

1. Homework:

In order to enrich the knowledge and strengthen the training of students, they will be asked to carry out additional homework guided by their course or tutorial teachers. This type of work will involve, for example, encouraging students to do research to answer specific and/or conflicting questions raised during the course, solving a difficult exercise, reviewing in detail the demonstration of a theorem, researching the complement to a course, using free software or a CAD-CAM tool to make applications and simulations related to the course, etc. These activities can be evaluated, graded and registered as a bonus for the students who complete them.

2. Mini course project:

The mini-course project (1 to 3 weeks) is an effective way to prepare students for the methodology of expression, writing, and documentary research. It allows them to put into practice the techniques learned in cross-curricular subjects. It also allows them to develop a sense of group work.

The theme of the mini-course project must be clearly defined and determined by the instructor for a group of students (maximum 2 to 5). The project culminates in a single report (maximum 10 pages) and a short collective oral presentation (preferably with audiovisual support). A common grade for the group is awarded according to an evaluation grid (presentation of the document and use of bibliographic resources, oral presentation, adherence to time, responses to questions, etc.) and will then be included as a bonus in the continuous assessment grade.

3. Report of a visit, an educational outing or a discovery and/or immersion course:

Visits, field trips, and discovery and/or immersion internships are opportunities for students that can help them better understand the reality of the working world and ultimately help them achieve better professional integration.

Administrative managers and instructors should encourage, as much as possible, this very important aspect of the training and ensure the organization of visits and field trips throughout the program.

They should also help/encourage students to conduct research in economic institutions with the aim of finding (in L3 and M1) discovery and/or immersion internships of one to two weeks in the industrial environment during the winter and spring breaks.

In this context, instructors should ensure that students take notes during these trips and require reports (reports of a few pages). This activity can be evaluated, graded, and credited as a bonus for the student who completes it. Students can be provided with templates to help them present their internship reports effectively.

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4. Participation in scientific events:

In order to instill a scientific mindset in students (especially for higher education students), they should be guided and encouraged to participate in round tables, laboratory seminars and conferences organized within their faculty and/or institution. It is even advisable to encourage these students to attend conferences related to their specialty outside their university at exhibitions, fairs and other events. This activity can be evaluated, graded and recorded as a bonus for the student who completes it.

5. Use of New Information and Communication Technologies:

ICTs are very attractive to students. Teachers should encourage them to use these technologies to create spaces for exchange among themselves (promotion pages, discussion forums on a specific course issue, etc.). The teacher can also participate in the group as an online evaluator. This activity can be evaluated, graded, and recorded as a bonus for students who participate.

Conclusion :

Student autonomy, considered a key to success, relies largely on the personal work students undertake, utilizing the resources and tools made available to them. All of this must, of course, be supervised and formalized within the framework of the educational and support programs provided jointly by the university instructor and the administrative manager throughout their training program.

This autonomy will allow them to build their professional identity based on their aspirations, abilities, and prior learning, and to further their academic path as they pursue higher education.

II – Half-yearly organization sheets for the specialty courses

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Semester 1

	Materials		cient	Weekly hourly volume			Semester Hourly	Additional Work in	Evaluation mode	
Educating Unit	Title	Credits	Coeffic	Course	DW	PW	Volume (15 weeks)	Consultation (15 weeks)	Continuous control	Exam
Fundamental Unit	Mathematics 1	6	3	3h00	1h30		67h30	82h30	40%	60%
Code: UEF 1.1 Credits: 18	Physics 1	6	3	3h00	1h30		67h30	82h30	40%	60%
Coefficients: 9	Structure of matter	6	3	3h00	1h30		67h30	82h30	40%	60%
	PW Physics 1	2	1			1h30	22h30	27h30	100%	
Methodological Unit Code: UEM 1.1	PW Chemistry 1	2	1			1h30	22h30	27h30	100%	
Credits: 9 Coefficients: 5	Computer Science 1	4	2	1h30		1h30	45h00	55h00	40%	60%
	Writing methodology	1	1	1h00			15h00	10h00		100%
Discovery Unit Code: UED 1.1 Credits: 1 Coefficients: 1	Careers in Science and Technology 1	1	1	1h30			22h30	02h30		100%
Transversal Unit Code: UET 1.1 Credits: 2 Coefficients: 2	Ethical dimension and deontology (the foundations)	1	1	1h30			22h30	02h30		100%
	Foreign Language 1 (French or English)	1	1	1h30			22h30	02h30		100 %
Total semestre 1		30	17	16h00	4h30	4h30	375h00	375h00		
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Semester 2

	Materials		cient	Weekly hourly volume			Semester	Additional Work in	Evaluation mode	
Educating Unit	Title	Credits	Coeffic	Course	DW	PW	Volume (15 weeks)	Consultation (15 weeks)	Continuous control	Exam
Fundamental Unit	Mathematics 2	6	3	3h00	1h30		67h30	82h30	40%	60%
Code : UEF 1.2 Credits: 18	Physics 2	6	3	3h00	1h30		67h30	82h30	40%	60%
Coefficients : 9	Thermodynamics	6	3	3h00	1h30		67h30	82h30	40%	60%
	PW Physics 2	2	1			1h30	22h30	27h30	100%	
Methodological Unit	PW Chemistry 2	2	1			1h30	22h30	27h30	100%	
Credits: 9	Computer science 2	4	2	1h30		1h30	45h00	55h00	40%	60%
Coefficients : 5	Presentation methodology	1	1	1h00			15h00	10h00		100%
Discovery Unit Code : UED 1.2 Credits: 1 Coefficients : 1	Careers in Science and Technology 2	1	1	1h30			22h30	02h30		100%
Transversal Unit Code : UET 1.2 Credits: 2 Coefficients : 2	Foreign Language 2 (French or English)	2	2	3h00			45h00	05h00		100 %
Total semestre 2		30	17	16h00	4h30	4h30	375h00	375h00		

Semester 3

	Materials		cient	Weekly hourly volume			Semester	Additional Work in	Evaluation mode	
Educating Unit	Title	Credits	Coeffic	Course	DW	PW	Volume (15 weeks)	Consultation (15 weeks)	Continuous control	Exam
Fundamental Unit	Mathematics 3	6	3	3h00	1h30		67h30	82h30	40%	60%
Crédits : 10 Coefficients : 5	Waves and vibrations	4	2	1h30	1h30		45h00	55h00	40%	60%
Fundamental Unit	Fluid mechanics	4	2	1h30	1h30		45h00	55h00	40%	60%
Credits: 8 Coefficients : 4	Rational mechanics	4	2	1h30	1h30		45h00	55h00	40%	60%
Methodological Unit	Probability and statistics	4	2	1h30	1h30		45h00	55h00	40%	60%
Code : UEM 2.1	Computer science 3	2	1			1h30	22h30	27h30	100%	
Credits: 9	Technical drawing	2	1			1h30	22h30	27h30	100%	
Coefficients : 5	PW Waves and vibrations	1	1			1h00	15h00	10h00	100%	
Discovery Unit Code : UED 2.1	Basic technology	1	1	1h30			22h30	02h30		100%
Credits: 2 Coefficients : 2	Metrology	1	1	1h30			22h30	02h30		100%
Transversal Unit Code : UET 2.1 Credits: 1 Coefficients : 1	Technical English	1	1	1h30			22h30	02h30		100%
Total semestre 3		30	17	13h30	7h30	4h00	375h00	375h00		

Semester 4									P a g	e 15
	Materials	dits	icien	Weekly l	hourly v	olume	Semester Hourly	Additional Work in	Evaluation	mode
Educating Unit	Title	Crea	Coeff	Course	DW	PW	Volume (15 weeks)	Consultation (15 weeks)	Continuou s control	Exam
Fundamental Unit Code : UEF 2.2.1	Soil mechanics	4	2	1h30	1h30		45h00	55h00	40%	60%
Credits: 6 Coefficients : 3	Construction Materials	2	1	1h30			22h30	27h30		100%
Fundamental Unit	Mathematics 4	4	2	1h30	1h30		45h00	55h00	40%	60%
Credits: 8 Coefficients : 4	Numerical methods	4	2	1h30	1h30		45h00	55h00	40%	60%
Fundamental Unit Code : UEF 2.2.3 Credits: 4 Coefficients : 2	Resistance of Materials	4	2	1h30	1h30		45h00	55h00	40%	60%
	PW Soil mechanics	2	1			1h30	22h30	27h30	100%	
Methodological Unit	PW Construction Materials	2	1			1h30	22h30	27h30	100%	
Credits: 9	Computer Aided Design	2	1			1h30	22h30	27h30	100%	
Coefficients : 5	PW Numerical methods	2	1			1h30	22h30	27h30	100%	
	PW MOF & ROM	1	1			1h00	15h00	10h00	100%	
Discovery Unit Code : UED 2.2	Geology	1	1	1h30			22h30	02h30		100%
Credits: 2 Coefficients : 2	Topography 1	1	1	1h30			22h30	02h30		100%
Transversal Unit Code : UET 2.2 Credits: 1 Coefficients : 1	Techniques of expression, information and communication	1	1	1h30			22h30	02h30		100%
Total semestre 4		30	17	12h00	6h00	7h00	375h00	375h00		

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Year: 2021-2022

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<u>Semester 5</u>

	Materials		cient	Weekly hourly volume			Semester	Semester Hourly Volume	Evaluation mode	
Educating Unit	Title	Credits	Coeffic	Course	DW	PW	Volume (15 weeks)	Additional Work in Consultation (15 weeks)	Continuous control	Exam
Fundamental Unit Code : UEF 3.1.1	Resistance of Materials 2	4	2	1h30	1h30		45h00	45h00	40%	60%
Credits: 12	Reinforced concrete 1	4	2	1h30	1h30		45h00	45h00	40%	60%
Coefficients : 6	Metallic Frame	4	2	1h30	1h30		45h00	45h00	40%	60%
Fundamental Unit Code : IIEE 3.1.2	Soil mechanics 2	4	2	1h30	1h30		45h00	45h00	40%	60%
Credits: 6 Coefficients : 3	Construction Materials 2	2	1	1h30			22h30	27h30		100%
	PW Topography	2	1			1h30	22h30	27h30	100%	
Methodological Unit Code : UEM 3.1	PW Soil mechanics 2	2	1			1h30	22h30	27h30	100%	
Credits: 9 Coefficients : 5	PW Construction Materials 2	2	1			1h30	22h30	27h30	100%	
	Construction drawing	3	2			2h30	37h30	37h30	100%	
Discovery Unit Code : UED 3.1	Topography 2	1	1	1h30			22h30	02h30		100%
Credits: 2 Coefficients : 2	General hydraulics	1	1	1h30			22h30	02h30		100%
Transversal Unit Code : UET 3.1 Credits: 1 Coefficients : 1	Construction techniques and rules	1	1	1h30			22h30	02h30		100%
Total semestre 5		30	17	12h00	6h00	7h00	375h00	375h00		

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<u>Semester 6</u>

Educating Unit	Materials	Credits	Coefficient	Weekly hourly volume			Semester	Additional Work	Evaluation mode	
	Title			Course	DW	PW	Hourly Volume (15 weeks)	in Consultation (15 weeks)	Continuous control	Exam
Fundamental Unit Code : UEF 3.2.1 Credits: 8 Coefficients : 4	Structural Calculation	4	2	1h30	1h30		45h00	55h00	40%	60%
	Metallic Constructions	4	2	1h30	1h30		45h00	55h00	40%	60%
Fundamental Unit Code : UEF 3.2.2 Credits: 10 Coefficients : 5	Reinforced concrete 2	6	3	3h00	1h30		67h30	82h30	40%	60%
	Foundations and Geotechnical Works	4	2	1h30	1h30		45h00	55h00	40%	60%
Methodological Unit Code : UEM 3.2 Credits: 9 Coefficients : 5	End of Cycle Project	4	2			3h00	45h00	55h00	100%	
	Computer-aided calculation	3	2			2h30	37h30	37h30	100%	
	Measurement and Price Estimation	2	1	1h30			22h30	27h30		100%
Discovery Unit Code : UED 3.2 Credits: 2 Coefficients : 2	Roads and various networks	1	1	1h30			22h30	02h30		100%
	Organization of construction sites	1	1	1h30			22h30	02h30		100%
Transversal Unit Code : UET 3.2 Credits: 1 Coefficients : 1	Entrepreneurship and business management	1	1	1h30			22h30	02h30		100%
Total semestre 6		30	17	13h30	6h00	5h30	375h00	375h00		

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