

IV.4. Supliment diploma EEITB

ROMÂNIA

MINISTERUL EDUCAȚIEI
MINISTRY OF EDUCATION

UNIVERSITATEA TEHNICĂ DE CONSTRUCȚII BUCUREȘTI ¹⁾
 TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF BUCHAREST

SUPLIMENT LA DIPLOMĂ
DIPLOMA SUPPLEMENT

2) Acest supliment însoțește diploma
cu seria _____ nr. _____
*This Supplement is for diploma
series _____ no _____*

1. DATE DE IDENTIFICARE A TITULARULUI DIPLOMEI INFORMATION IDENTIFYING THE HOLDER OF THE DIPLOMA			
Numele de familie din certificatul de naștere <i>Family name(s) of the birth certificate</i>		Numele de familie după căsătorie (dacă este cazul) <i>Family name(s) (after marriage) (if applicable)</i>	
1.1a		1.1b	
Inițiala (inițialele) prenumelui (prenumelor) tatălui/mamei <i>Initial(s) of father's/mother's first name(s)</i>		Prenumele <i>First name(s)</i>	
1.2a		1.2b	
Data nașterii (anul/luna/ziua) <i>Date of birth (year /month/ day)</i>		Locul nașterii (localitatea, județul/ sectorul, țara) <i>Place of birth</i>	
1.3a		1.3b	
Numărul matricol <i>Student enrolment number</i>		Codul numeric personal (CNP) <i>Personal identification number</i>	Anul înmatriculării <i>Year of enrolment</i>
1.4			1.5
2. INFORMAȚII PRIVIND CALIFICAREA INFORMATION IDENTIFYING THE QUALIFICATION			
Denumirea calificării și titlul acordat <i>Name of qualification and title awarded</i>			
2.1	EFICIENȚA ENERGETICĂ A INSTALAȚIILOR DIN CLĂDIRI/EFFICACITÉ ÉNERGÉTIQUE DES INSTALLATIONS TECHNIQUES DU BÂTIMENT/MASTER		
Domeniul de studii <i>Field of study</i>		Programul de studii <i>Programme of study</i>	
2.2a	INGINERIE CIVILĂ ȘI INSTALAȚII / CIVIL ENGINEERING AND BUILDING SERVICES	2.2b	EFICIENȚA ENERGETICĂ A INSTALAȚIILOR DIN CLĂDIRI/EFFICACITÉ ÉNERGÉTIQUE DES INSTALLATIONS TECHNIQUES DU BÂTIMENT/ENERGY EFFICIENCY OF BUILDING TECHNICAL INSTALLATIONS
Numele și statutul instituției de învățământ superior care eliberează diploma (în limba română) <i>Name and status of awarding institution</i>		Facultatea care organizează examenul de finalizare a studiilor (în limba română) <i>Faculty administering the final examination</i>	
2.3a	UNIVERSITATEA TEHNICĂ DE CONSTRUCȚII BUCUREȘTI TECHNICAL UNIVERSITY OF CIVIL ENGINEERING OF BUCHAREST	2.3b	FACULTATEA DE INGINERIE A INSTALAȚIILOR FACULTY OF BUILDING SERVICES ENGINEERING
Numele și statutul instituției de învățământ superior care a asigurat școlarizarea (dacă diferă de 2.3a, în limba română) <i>Name and status of institution administering studies (if different from 2.3a)</i>		Facultatea care a asigurat școlarizarea (dacă diferă de 2.3b, în limba română) <i>Faculty administering studies (if different from 2.3b)</i>	
2.4a	-	2.4b	-
Limba (limbile) de studiu / examinare <i>Language(s) of instruction/ examination</i>			
2.5	FRANCEZA - FRENCH		

3. INFORMAȚII PRIVIND NIVELUL CALIFICĂRII

INFORMATION ON THE LEVEL OF THE QUALIFICATION

Nivelul calificării Level of qualification		Durata oficială a programului de studii și numărul de credite de studiu transferabile (conform ECTS/SECT) Official length of the programme of study and number of ECTS/SECT credits
3.1	STUDII UNIVERSITARE DE MASTERAT MASTER DEGREE	3.2 4 semestre; 120 credite ECTS 4 semesters; 120 ECTS credits
Condițiile de admitere Access requirement(s)		
3.3	DIPLOMĂ DE STUDII DE LICENȚĂ/LUNGĂ DURATĂ + EXAMEN DE ADMITERE BACHELOR/LONG TERM HIGHER EDUCATION + ADMISSION EXAMINATION	

4. INFORMAȚII PRIVIND CURRICULUMUL ȘI REZULTATELE OBTINUTE

INFORMATION ON THE CURRICULUM AND RESULTS GAINED

Forma de învățământ Mode of study	
4.1	Cu frecvență Full-time
Competențe asigurate prin programul de studii Learning outcomes of the study programme	
Compétences professionnelles Professional competences	
1 La conception et l'optimisation technique et économique des systèmes simples et complexes d'installations dans les bâtiments à destinations et fonctionnalités spéciales (l'identification des besoins techniques et fonctionnelles des différentes catégories d'installations par rapport aux exigences imposées par la destination et la fonction des bâtiments, l'évaluation des tâches pour le dimensionnement d'installations en fonction des conditions propres à chaque site, l'analyse comparative des solutions alternatives de composition et d'équipement des systèmes d'installations) 2 La réalisation des calculs de dimensionnement et d'optimisation technique et économique des systèmes complexes d'installations (l'utilisation appropriée des connaissances, des principes et des programmes spécifiques pour le dimensionnement des systèmes complexes d'installations selon les normes et les règlements spécifiques) 3 La connaissance et l'application des techniques de mesure des paramètres fonctionnels, le traitement et l'interprétation des résultats des mesures pour différentes catégories d'installations complexes 4 L'évaluation de l'efficacité fonctionnelle et énergétique des systèmes d'installations et la conception des solutions pour leur réhabilitation et la modernisation technologique 5 La coordination et le contrôle des activités à caractère économique et technique, spécifiques aux domaines d'installations (identifier et définir l'importance des documents spécifiques aux processus de réalisation, exploitation et gestion des systèmes complexes d'installations) 6 La conception de programmes (logiciels) et la réalisation des activités de recherche appliquée pour évaluer la performance opérationnelle et énergétique des différents types de catégories d'installations 7 L'identification de la réalisation des exigences de sécurité, de fonctionnalité, de confort et de durabilité pour les éléments et les systèmes complexes d'installation qui peuvent être vérifiés (réhabilités) du point de vue énergétique 1 Creation, design and technical-economic optimization of simple and complex building services with special purposes and functions (identification of the technical and functional requirements of various categories of installations in relation to the exigencies imposed by the purpose and functions of the buildings, the estimation of stresses for size determination of installations under specific conditions of functionality and location, the comparative analysis of alternative solutions for the design and equipment of installation systems) 2 Size determination and technical-economic optimization calculation for complex installation systems (adequate use of knowledge, specific principles and programs of dimensioning for complex installation systems, in compliance with the specific standards and norms) 3 Knowledge and application of measurement techniques of functional parameters, processing and interpretation of measurement results for various complex categories of installations 4 Estimation of energy consumption of installation systems and designing solutions for their rehabilitation and technological modernization 5 Coordination and control of the technical and economic activities, specific for the installations fields (identification and definition of the significance of documents specific for processes of completion, exploitation and management of complex installation systems) 6 Program designing and development of applicative research for estimation of functional-energetic performances of various types of installations 7 Identification of requirement observance of safety, functionality, comfort and sustainability for complex installation elements and systems, which can be audited from the energetic point of view	

Compétences transversales
Cross-competencies

1 La coordination de projets complexes, la résolution des problèmes spécifiques du domaine, avec une évaluation adéquate du volume de travail, des ressources disponibles, du temps nécessaire pour l'achèvement et des risques, dans les conditions de l'application des normes déontologiques et des normes en matière d'éthique professionnelles, de sécurité et de santé au travail
2 L'identification du rôle de la gestion de projets complexes, le développement des relations de communication dans la langue maternelle et étrangère, afin de fournir des informations à des groupes et des milieux professionnels, l'application des techniques de communication et de travail efficace au sein de l'équipe où peut jouer le rôle de coordinateur
3 L'utilisation efficace des sources d'information et moyens de communication et de formation professionnelle assistée (des applications Internet, des logiciels spécialisés, des bases de données, des cours en ligne, etc.) à la fois en roumain et dans une langue internationale et démontrer/prouver un esprit créatif et d'initiative pour résoudre des problèmes complexes
4 La connaissance et le respect des valeurs et de l'éthique professionnelle et l'identification des propres besoins d'apprentissage et de développement personnel et professionnel

1 Coordinating complex projects, solving specific problems of the field through a correct estimation of workload and available resources, the necessary time to finish and the risks, by applying the norms of deontology and professional ethics in the field, as well as those of work safety and health
2 Identification of the role of running complex projects, developing communication relations in the native or foreign language and transmitting information to professional groups or media, applying techniques of efficient networking and work in a team where the position of a coordinator can be undertaken
3 Efficient use of information sources and resources of communication and assisted professional training (Internet portals, specialized software applications, databases, online courses etc.), both in Romanian and in an international language, and demonstrating a creative spirit and initiative in solving complex problems
4 Knowledge and observance of professional values and ethics and detection of one's own learning and personal and professional development

Detaliile privind programul absolvit, calificativele/notele/numărul de credite ECTS/SECT obținute
(conform Registrului matricol al facultății, volumul nr. 11)
Programme details and the individual grades/ marks/ number of ECTS/SECT obtained
(according to Faculty Student Records, volume no 11)

4.3	Nr. No	Denumirea disciplinei Subject	Total ore Number of hours					Nota/ Grade		Nr. credite Number of ECTS/SECT credits	
			C	S	L	P	LP	Sem I 1 st sem	Sem II 2 nd sem	Sem I 1 st sem	Sem II 2 nd sem
Anul I (anul universitar 2019/2020) 1 st Year of study (2019/2020 academic year)											
1		Analyse numérique et programmation <i>Numerical Analysis and Programming</i>	14	28	0	0	0		-	5	
2		Techniques d'acquisition des données <i>Data acquisition and processing techniques</i>	28	0	14	0	0		-	5	
3		Thermodynamique technique avancée <i>Advanced Engineering Thermodynamics</i>	14	14	0	0	0		-	4	
4		Electro-énergétique des sources renouvelables d'énergie <i>Electro - energetics of renewable energy sources</i>	14	0	14	0	0		-	4	
5		Comportement en régime dynamique des systèmes thermo-hydrauliques <i>Dynamic behavior of thermal-hydraulic systems</i>	14	0	14	0	0		-	4	
6		Modélisation et simulation de transfert de chaleur et de masse dans le bâtiment <i>Building heat and mass transfer modelling and simulation</i>	14	14	0	0	0		-	4	
7		Modélisation et simulation des équipements techniques <i>Modelling and simulation of technical equipment</i>	14	14	0	0	0		-	4	
8		Exigences de confort et de qualité de l'air dans les ambiances intérieures <i>Comfort exigences and air quality in indoor environments</i>	14	14	0	0	0		-		3
9		Utilisation des sources renouvelables d'énergie dans les bâtiments <i>Renewable energy sources utilization in buildings</i>	14	0	0	14	0		-		4
10		Chauffage et refroidissement par rayonnement <i>Heating and cooling by radiation</i>	14	0	14	0	0		-		4

11	Modélisation et simulation des systèmes techniques pour les bâtiments <i>Modelling and simulation of technical systems in buildings</i>	14	0	28	0	0	-		4
12	Distribution de l'air dans les locaux et efficacité de ventilation <i>Air distribution in rooms and ventilation efficiency</i>	14	14	0	0	0	-		3
13	Chauffage et climatisation des bâtiments complexes (multizone, etc.) <i>Heating and cooling of complex buildings (multizone, etc.)</i>	14	14	0	0	0	-		4
14	Efficacité énergétique des sources thermiques (refroidisseur de liquide, etc.) <i>Energy efficiency of thermal sources (cooling liquid, etc.)</i>	14	14	0	0	0	-		4
15	Cogénération de petite puissance <i>Small-scale cogeneration</i>	14	14	0	0	0	-		3
16	Éthique et intégrité académique <i>Ethics and Academic Integrity</i>	14	0	0	0	0	-		1
Promovat cu media : ⁴⁾ 9.84 (noua 84%) <i>Pass, average grade per academic year</i>		Total credite / Total ECTS/SECT credits : 60							

Anul II (anul universitar 2020/2021) <i>2nd Year of study (2020/2021 academic year)</i>									
1	Consommations d'énergie dans le bâtiment <i>Energy consumptions in buildings</i>	28	14	0	0	0	-	5	
2	Installations et équipements pour la sécurité incendie <i>Fire-safety systems and equipment</i>	14	14	0	0	0	-	4	
3	Expertise, audit et certification énergétique des bâtiments <i>Expertise, energy audit and energy certification of buildings</i>	28	0	0	14	0	-	5	
4	Inspection des systèmes de chauffage et de climatisation <i>Inspection of heating and air conditioning systems</i>	14	0	0	0	0	-	3	
5	Systèmes de récupération d'énergie dans les bâtiments <i>Energy recovery systems in buildings</i>	14	14	0	0	0	-	3	
6	Conception des bâtiments à basse consommation énergétique et à faible impact environnemental <i>Design of low energy consumption and low environmental impact buildings</i>	14	14	0	0	0	-	4	
7	Bâtiments intelligents – Gestion des équipements techniques et systèmes de GTB <i>Intelligent buildings – Building management systems (BMS)</i>	14	14	0	0	0	-	4	
8	Elaboration d'un rapport de recherche <i>development of a research report</i>	4.06	0	0	9.94	0	-	2	
9	Stage pratique pour la réalisation du projet de fin d'études <i>Practical training for the master thesis</i>	0	0	0	98	0	-		15
10	Elaboration du projet de fin d'études <i>Preparation of the end of studies project</i>	0	0	0	98	0	-		15
Promovat cu media : ⁴⁾ 9.48 (noua 48%) <i>Pass, average grade per academic year</i>		Total credite / Total ECTS/SECT credits : 60							

Promovat:	DA	Media ⁵⁾ de promovare a studiilor (ponderată cu puncte de credit - dacă este cazul): 9.66 (nouă 66%)	Total credite: 120
Pass:	YES	Overall average grade (credit – weighted average – if available):	Total ECTS/SECT credits:
Sistemul de notare și, dacă sunt disponibile, informații privind distribuția statistică a notelor <i>Grading scheme and, if available, grade distribution guidance</i>			
4.4	Notarea unei discipline se face pe o scală de la 10 la 1, notele acordate fiind numere întregi; nota minimă de promovare este 5, iar nota maximă este 10. Media minimă de promovare a anilor de studii pentru promoția 2021, domeniul de studii INGINERIE CIVILĂ ȘI INSTALAȚII, programul de studii este 9.66 (nouă 66%), iar media maximă este 9.66 (nouă 66%), titularul fiind clasat pe locul 1 dintr-un total de 1 absolvenți. <i>Grades are integer numbers and given on a scale from 10 (the highest grade) to 1 (the lowest grade); the lowest passing grade is 5.</i> <i>The passing overall average grades for the class of 2021, field of study CIVIL ENGINEERING AND BUILDING SERVICES, study programme in ENERGY EFFICIENCY OF BUILDING TECHNICAL INSTALLATIONS, are : lowest average: 9.66 (nine 66%) (out of 10) and highest average 9.66 (nine 66%) (out of 10), the degree holder is ranked 1 out of 1 graduates.</i>		

5. INFORMAȚII SUPLIMENTARE ADDITIONAL INFORMATION			
	Informații suplimentare Additional information	Alte surse pentru obținerea mai multor informații Further information sources	
5.1	Anul II 2020/2021 - Studiat și promovat la Universitatea La Rochelle (acord de cooperare între UTCB și Universitatea La Rochelle, Franța pentru acordarea dublei diplome de master în domeniul : Inginerie civilă, nr. 7206/29.07.2016) Year II 2020/2021 - Studied and promoted at La Rochelle University (co-operation agreement between UTCB and La Rochelle University, France for the award of the double master's degree in Civil Engineering, 7206 / 29.07.2016)	5.2	020396 București, B-dul Lacul Tei, Nr. 124, Sector 2, Tel/Fax: +40-21-2421208/2420781 www.utcb.ro
6. INFORMAȚII PRIVIND DREPTURILE CONFERITE DE CALIFICARE ȘI DE TITLU (dacă este cazul) INFORMATION ON THE FUNCTION OF THE QUALIFICATION AND DEGREE (if applicable) Posibilități de continuare a studiilor (după promovarea examenului de finalizare) Access to further study (after passing the final examination)			
6.1	Ciclul III – Studii universitare de doctorat Third Cycle – PhD Studies		
6.2	Statutul profesional Professional status Droit d'occuper des emplois avec maître de l'enseignement supérieur dans les secteurs public et privé Right to hold jobs with higher education master in state and private sector		
7. LEGALITATEA SUPLIMENTULUI CERTIFICATION OF THE SUPPLEMENT			
	Funcția Position	Semnătura Signature	
7.1	Rector Rector Prof.univ.dr. ing. Radu-Sorin VĂCĂREANU	7.2	Secretar șef universitate University Registrar Ing. Mariana-Mihaela VOICA
7.3	Decan Dean Prof.univ.dr.ing. Sorin BURCHIU	7.4	Secretar șef facultate Faculty Registrar Ing. Carmen MOISE-NECULA
⁶⁾ Nr. și data eliberării No. ,dated		Ștampila sau sigiliul oficial Official stamp or seal	
7.5	Acest document conține un număr de 6 pagini. This document consists of 6 pages		7.6
		L. S.	

¹⁾ Denumirea instituției de învățământ superior care a asigurat scolarizarea și eliberează suplimentul de diplomă.

²⁾ Name of institution administering studies and provided diploma supplement

³⁾ Se va completa de către instituția de învățământ superior care eliberează diploma. Acesta trebuie să verifice legalitatea tuturor înscrinerilor de pe actul de studii și de pe suplimentul la diplomă.

⁴⁾ To be filled in by the awarding institution that must check the legality of all information provided in the diploma and diploma supplement.

⁵⁾ Se va menționa numărul total de ore din care: numărul total de ore de curs (C); numărul total de ore de seminar (S); numărul total de ore de lucrări practice (LP); numărul total de ore de proiect (P); etc.

⁶⁾ It shall be mentioned the total hours of which total hours: for courses (C), seminars (S), practical courses (LP), projects (P).

⁷⁾ Media anuală cu două zecimale, fără rotunjire.

⁸⁾ Average grade per academic year, with two decimals and without rounding off.

⁹⁾ Media generală cu două zecimale, fără rotunjire.

¹⁰⁾ Overall average grade with two decimals and without rounding off.

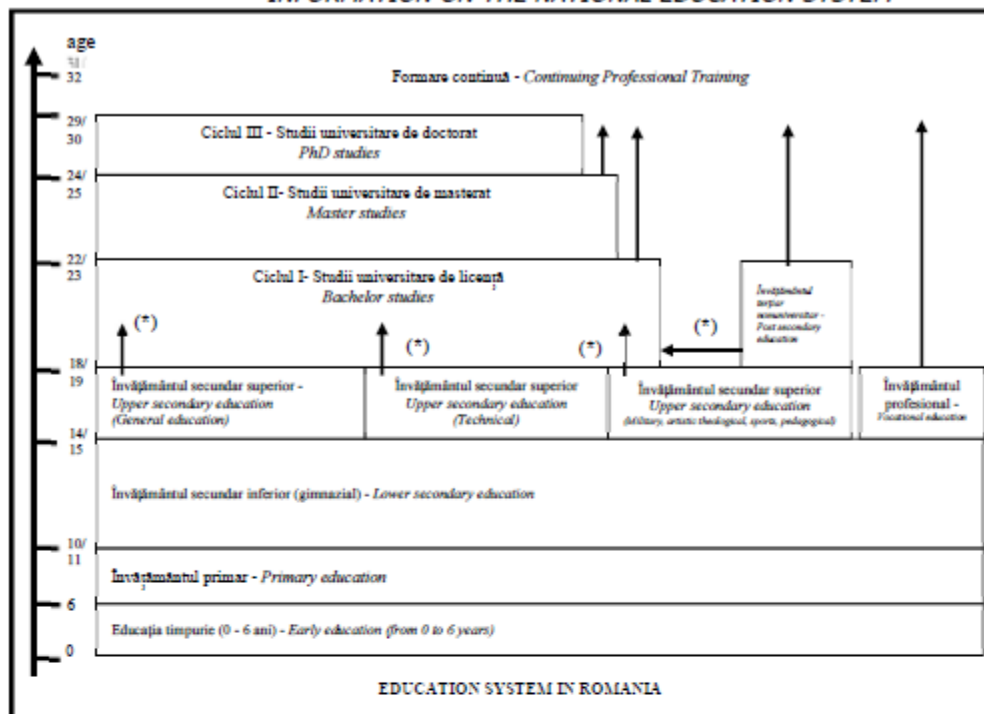
¹¹⁾ Se va completa de către instituția care a asigurat scolarizarea titlului.

¹²⁾ To be filled in by the institution administering studies.

¹³⁾ Suplimentul la diplomă se va redacta pe format A4 (față/verso), se va numerota și se va ștampila pe fiecare pagină, pe colțul din dreapta jos (L.S.), cu același specimen de la 7.6.

¹⁴⁾ Diploma supplement shall be printed on both sides of an A4 paper format and shall be numbered and stamped on each page on the right bottom corner (L.S.), with the same specimen from 7.6.

8. INFORMAȚII PRIVIND SISTEMUL NAȚIONAL DE ÎNVĂȚĂMÂNT INFORMATION ON THE NATIONAL EDUCATION SYSTEM



PREZENTARE GENERALĂ A SISTEMULUI NAȚIONAL DE ÎNVĂȚĂMÂNT SUPERIOR Overview of the national higher education system

Accesul la învățământul superior se bazează pe diploma de bacalaureat (obținută la sfârșitul învățământului secundar superior), iar accesul la programe de master se bazează pe diploma obținută după finalizarea studiilor de licență (BA/BSc/BEng).
Access to higher education is based on the baccalaureate diploma (obtained at the end of upper secondary education) and access to master programmes is based on the bachelor degree (BA/BSc/BEng).

Studiile universitare de licență (BA/BSc/BEng) presupun 180-240 de puncte de credit, calculate în conformitate cu sistemul european de credite transferabile (ECTS/SECT) și se finalizează prin nivelul 6 din cadrul european al calificărilor pentru învățare pe tot parcursul vieții (EQF/CEC).
Bachelor studies (BA/BSc/BEng) presuppose 180-240 credit points, calculated in accordance with the European Credit Transfer System (ECTS/SECT), and ends with the level 6 from the European Qualifications Framework for lifelong learning (EQF/CEC).

Studiile universitare de master (MA/MSc/MEng) presupun 60-120 puncte de credit, calculate în conformitate cu sistemul european de credite transferabile (ECTS/SECT) și se finalizează prin nivelul 7 din EQF/CEC.
Master studies (MA/MSc/MEng) presuppose 60-120 credit points, calculated in accordance with the European Credit Transfer System (ECTS/SECT), and ends with the level 7 EQF/CEC.

Pentru profesii reglementate prin norme, recomandări sau bune practici europene, studiile universitare de licență și masterat pot fi oferite comasat, într-un program unitar de studii universitare cu o durată cuprinsă între 5 și 6 ani, la învățământul cu frecvență, diplomele obținute fiind echivalente diplomei de master (în următoarele domenii de studiu: Medicină - 360 de ECTS / SECT, Stomatologie - 360 de ECTS / SECT, Farmacie - 300 ECTS / SECT, Medicină Veterinară - 360 ECTS / SECT, Arhitectură - 360 ECTS / SECT).

For professions regulated by European norms, regulations or good practices, bachelor (BA/BSc/BEng) and master studies (MA/MSc/MEng) can be provided as part of a 5 to 6 year full-time programme of study, thus diplomas are recognised as master's degree certificates (the following fields of study are considered: Medicine - 360 ECTS/SECT, Dentistry - 360 ECTS/SECT, Pharmacy - 300 ECTS/SECT, Veterinary Medicine - 360 ECTS/SECT, Architecture - 360 ECTS/SECT).

Studiile universitare de doctorat conduc la o teză de doctorat, iar candidații care finalizează primesc diploma de doctor. Studiile universitare de doctorat permit dobândirea unei calificări de nivel 8 din EQF/CEC.
PhD studies result in a doctoral research thesis, while successful candidates are awarded a PhD diploma. Doctoral studies allow obtaining a qualification at level 8 EQF/CEC.

Sistemul de învățământ superior românesc este un sistem deschis. Toate universitățile din România folosesc Sistemul European de Credite Transferabile (ECTS/SECT).
The Romanian higher education system is an open system. All Romanian universities use the European Credit Transfer System (ECTS/SECT).

Programele de studii universitare pot fi organizate, după caz, conform reglementărilor legale în vigoare, la următoarele forme de învățământ: cu frecvență, cu frecvență redusă și la distanță.
University programs can be organized, as appropriate, according to legal regulations, at the following forms of education: full time, part time and distantly.

De asemenea, universitățile oferă programe de formare profesională continuă, pe baza cererilor de pe piața muncii.
Universities also provide continuing professional training programmes based on the market demands.

(*) În conformitate cu Legea nr. 1/2011
According to Law no. 1/2011