SYLLABUS

1. Data about the program of study

1.1 Institution	Technical University of Cluj-Napoca
1.2 Faculty	Faculty of Electronics, Telecommunications and Information Technology
1.3 Department	Bases of Electronics
1.4 Field of study	Electronic Engineering, Telecommunications and Information Technologies
1.5 Cycle of study	Master
1.6 Program of study / Qualification	Integrated Systems and Circuits (CSI)/ Technologies, Systems and Applications for eActivities (TSAE)/ Master
1.7 Form of education	Full time
1.8 Subject code	13.00;

2. Data about the subject

2.1 Subject name	Digital Economics and Electronic Services						
2.2 Subject area	Digital economics, data security, digital archives, web sites, e-commerce						
2.3 Course responsible	Assoc Prof.PhD.Eng. Mihaela Cîrlugea – Mihaela.Cirlugea@bel.utcluj.ro						
2.4 Teacher in charge with seminar / laboratory / project	Assoc Prof.PhD.Eng. Mihaela Cîrlugea – Mihaela.Cirlugea@bel.utcluj.ro						
2.5 Year of study	II	2.6 Semester	1	2.7 Assessment	E	2.8 Subject category	DS/DI

3. Estimated total time

3.1 Number of hours per week	10	of which: 3.2 course	2	3.3 project	8
3.4 To Total hours in the curriculum	56	of which: 3.5 course	28	3.6 project	112

Distribution of time	hours
Manual, lecture material and notes, bibliography	28
Supplementary study in the library, online specialized platforms and in the field	14
Preparation for seminars / laboratories, homework, reports, portfolios and essays	28
Tutoring	3
Exams and tests	3
Other activities:	0

3.7 Total hours of individual study	83
3.8 Total hours per semester	140
3.9 Number of credit points	5

4. Pre-requisites (where appropriate)

4.1 curriculum	Systems for digital management content, e-commercials
4.2 competence	N. A.

5. Requirements (where appropriate)

5.1. for the course	Amphitheatre, Cluj-Napoca
5.2. for the projects	Laboratory, Cluj-Napoca

6. Specific competences

Professional competences	**C3.3. Practical problems solutions in the area of electronic commerce and digital economics** C4.3 Knowledge of virtual transactions principles **C5. Developling knowledge in the development environments of content management systems** C5.2 Explanation and interpretation of the fundamental marketing and promotion ways for improving the commercial online visibility **C6. Knowledge of elements that compose an online business** C6.4 Aquires the abilities of creating a web site using a content management system like for example Drupal
Cross competences	- Abilities of thinking in a digital economic structure using marketing elements for increasing prophit - Developing an aesthetic sense and minimal design knowledge for creating desirable, commercial sites

7. Discipline objectives (as results from the key competences gained)

7.1 General objective	Development of professional skills in the field of electronic commerce and digital economics
7.2 Specific objectives	1. Assimilation of the theoretical knowledge regarding the operation of electronic commercial systems and digital transactions 2. Development of skills and abilities needed to design and implement of web pages, HTTP servers, relational data bases and specific programming 3. Content management systems familiarization

8. Contents

8.1 Lecture (syllabus)	Teaching methods	Notes
1. The internet. History. Web browsers	The discipline content	The discipline
2. Electronic commerce. History. Definitions		
3. Electronci commerce applications. Design. Business plan		

4. Web domain, hosting. Front-end, back-end		
5. Business Applications and online commerce systems		
6. Apache. HTTP open source servers		
7. MySQL. Relational data bases		
8. Content management systems. Drupal, Wordpress, Joomla		
9. Drupal platform and Lando-Aquia		
10. Enterprise content management. ECM and WCM		
11. Electronic payment systems. E-cash/E-money		
12. Blockchain Technology		
13. Security in electronic commerce systems. Vulnerabilities		
14. Electronic commerce markets (Amazon, Google etc)		

Bibliography

1. Mihaela Cîrlugea – Economie digitală şi servicii electronice, suport teoretic de curs
2. Dave Chaffey, Digital business and e-commerce management, 2015, Pearson Higher Education
3. Coy Barefoot, Revolutia comerțului electronic, 2013, editura Amaltea
4. Patriciu Victor Valeriu, Securitatea comerțului electronic, 2006, Editura All
5. Robert F. Smallwood, Managing Electronic Records: Methods, Best Practices, and Technologies, 2013, Wiley
6. Stephen A Cameron, Enterprise Content Management, A business and technical guide, BCS the chartered for institute IT, 2011, UK

8.Project	Teaching methods	Notes
1. General Project requirements	Practical demonstration, Case studies, debates	Use of computers and internet
2. HTML basic notions		
3. HTML Forms		
4. CSS Basics . Examples		
5. Building commerce sites. Solutions, comparative study		
6. Drupal modules and themes regarding blogs and forums		
7. Steps in creating an online business		
8. New Media strategies and their influence over the e-commerce		
9. Marketing in e-commerce. Commercials, promotions and their importance in prophit		
10. Case studies and influences – eBay, Paypal, Amazon, Aliexpress		
11. Blockchain technologies- study-debates		
12. Data mining		
13. Google Analytics – discussion and study from the economic-mathematical perspective		
14. Project presentations		

Bibliography

1. Mihaela Cîrlugea – Economie digitală şi servicii electronice, suport pentru aplicaţii
2. https://www.w3schools.com/
3. https://www.drupal.org
4. Lynn Beighley, Seamus Bellamy, Drupal for Dummies, John Wiley&Sons Inc, USA, 2011
5. Richard Carter, building E-commerce Sites with Drupal Commerce cookbook, Packt Publishing, 2013, UK

9. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

The discipline content and the acquired skills are in agreement with the expectations of the professional Competences acquired will be used in the following COR occupations (Electronic economics Engineer; Web applications Design Engineer; user in multimedia web-applications) or in the new occupations proposed to be included in COR (e-Sale Support Engineer; Web- Multimedia Applications Developer; Web e-commerce Network Engineer; Specialist in enterprise economics ; Project Manager; Web-Traffic Engineer; E-commerce Systems Consultant.

10. Evaluation

Activity type	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade
10.4 Course	The level of acquired theoretical knowledge and practical skills	Written exam including theory and problems (5 questions)	25%
10.5 Project	The level of acquired knowledge and abilities – case studies or design of a web-page or of an e-commerce business model	Project presentation	75%
10.6 Minimum standard of performance			

Qualitative point of view

Minimal theoretical and practical knowledge:

- ✓ Understanding of the architecture, functionality, stack of electronic commerce
- ✓ Ability to perform e-business plans, simple web-sites design, understanding of HTML basics

Minimal acquired competences:

- ✓ Ability to develop online performance analysis of web-traffic
- ✓ Ability to analyze, understand and use the principles and basics of the e-commerce

Quantitative point of view

- ✓ Minimal mean at the exam 5
- ✓ Final mark = 0.75 x Project + 0.25 x Exam

Date of filling in:	Responsible	Title First name SURNAME	Signature
1.10.2022	Course	Assoc Prof.PhD.Eng. Mihaela Cîrlugea	
	Applications	Assoc Prof.PhD.Eng. Mihaela Cîrlugea	

Date of approval in the Department of Communications 01.10.2022	Head of Bases of Electronics Department Prof. Sorin HINTEA, Ph.D.
Date of approval in the Council of Faculty of Electronics, Telecommunications and Information Technology 01.10.2022	Dean Prof. Ovidiu POP, Ph.D.