

## SYLLABUS

### 1. Information regarding the programme

1.1 Higher education institution	<b>Babeş-Bolyai University</b>
1.2 Faculty	<b>Faculty of Mathematics and Computer Science</b>
1.3 Department	<b>Department of Computer Science</b>
1.4 Field of study	<b>Computers and Information Technology</b>
1.5 Study cycle	<b>Bachelor</b>
1.6 Study programme / Qualification	<b>Information Engineering</b>

### 2. Information regarding the discipline

2.1 Name of the discipline	Writing mathematical documents in LaTeX/ Redactarea documentelor matematice în LaTeX						
2.2 Course coordinator	Lect. Dr. Anca Grad						
2.3 Seminar coordinator	Lect. Dr. Anca Grad						
2.4. Year of study	3	2.5 Semester	5	2.6. Type of evaluation	C	2.7 Type of discipline	Facultative DD

### 3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	2	Of which: 3.2 course	1	3.3 seminar/laboratory	1 LP
3.4 Total hours in the curriculum	28	Of which: 3.5 course	14	3.6 seminar/laboratory	14
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					15
Additional documentation (in libraries, on electronic platforms, field documentation)					15
Preparation for seminars/labs, homework, papers, portfolios and essays					15
Tutorship					2
Evaluations					0
Other activities: .....					0
3.7 Total individual study hours					47
3.8 Total hours per semester					75
3.9 Number of ECTS credits					3

### 4. Prerequisites (if necessary)

4.1. curriculum	•
4.2. competencies	•

### 5. Conditions (if necessary)

5.1. for the course	• Lecture hall with video projector
5.2. for the seminar /lab activities	•

### 6. Specific competencies acquired

<b>Professional competencies</b>	C1.5 Theoretical basis of the characteristics of the designed systems C2.1 Description of the structure and the functioning of hardware, software and communication components
<b>Transversal competencies</b>	CT1 Honorable, responsible, ethical behaviour, in the spirit of the law, to ensure the professional reputation CT3 Demonstrating initiative and pro-active behaviour for updating professional, economical and organizational culture knowledge

## 7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	<input type="checkbox"/> Familiarization with a text processor
7.2 Specific objective of the discipline	<input type="checkbox"/> Learning the main notions in LaTeX and using them for: <ul style="list-style-type: none"> <li>● Text editing</li> <li>● Mathematics editing</li> <li>● Production and inclusion of graphics.</li> </ul>

## 8. Content

8.1 Course	Teaching methods	Remarks
1. Basic notions	Lecture, description, exemplifying by means of multimedia	1 hour
2. Text editing	Lecture, description, exemplifying by means of multimedia	1 hour
3. Mathematics editing (basic approach)	Lecture, description, exemplifying by means of multimedia	1 hour
4. Mathematics editing II (equations, alignment, labels, AMS-LaTeX)	Lecture, description, explanation, examples, problematisation	1 hour
5. Tables in LaTeX (including the usage of the specific packages)	Lecture, description, exemplifying by means of multimedia	1 hour
6. Graphics in LaTeX	Lecture, description, explanation, examples, problematisation	1 hour
7. Switching diagrams: amscd and XY-Pic packages	Lecture, description, explanation, examples, problematisation	1 hour
8. LaTeX programming elements	Lecture, description, explanation, examples, problematisation	1 hour
9. Indexes and bibliographies: Makeindex and BibTeX utilities	Lecture, description, explanation, examples, problematisation	1 hour
10. LaTeX and pdf: hyperref package	Lecture, description, exemplifying by means of multimedia	1 hour
11. Creating slides with LaTeX: the beamer package	Lecture, description, exemplifying by means of multimedia	1 hour
12 PSTricks packages group, basic elements	Lecture, description, exemplifying by means of multimedia	1 hour

<b>13. The tools package group</b>	Lecture, description, exemplifying by means of multimedia	1 hour
<b>14. Purchasing and installing a TeX distribution</b>	Lecture, description, exemplifying by means of multimedia	1 hour

### Bibliography

1. Paul A. Blaga, Horia F. Pop - Introducere în LaTeX2e, Editura Tehnică, București, 2000
2. Marc van Dongen –LaTeX and Friends, Springer, 2012
3. Michel Goossens, Frank Mittelbach, Sebastian Rahtz, Denis Roegel, Herbert Voss – The LaTeX Graphics Companion, 2nd edition, Addison-Wesley, 2008
4. George Gratzer - More Math into LaTeX, Springer, 2007
5. Leslie Lamport - LaTeX (ediția a doua), Addison-Wesley, 1995
6. Thomas E. Price, Lance Carnes – LaTeX, Quick Start, Personal TeX, Inc., 2009

<b>8.2 Seminar / laboratory</b>	<b>Teaching methods</b>	<b>Remarks</b>
1. Laboratory (2 hours) Text editing	Description, explanation, conversation, individual and/or team study	2 hours
2. Laboratory (2 hours) Mathematics editing	Description, explanation, conversation, individual and/or team study	2 hours
3. Laboratory (2 hours) Tables	Description, explanation, conversation, individual and/or team study	2 hours
4. Laboratory (2 hours) Graphics (graphicx package)	Description, explanation, conversation, individual and/or team study	2 hours
5. Laboratory (2 hours) Indexes and bibliography	Description, explanation, conversation, individual and/or team study	2 hours
6. Laboratory (2 hours) Beamer slides	Description, explanation, conversation, individual and/or team study	2 hours
7. Laboratory (2 hours) PSTricks drawings	Description, explanation, conversation, individual and/or	2 hours

	team study	
<b>Bibliography</b>		
<ol style="list-style-type: none"> <li>1. Paul A. Blaga, Horia F. Pop - Introducere în LaTeX2e, Editura Tehnică, București, 2000</li> <li>2. Marc van Dongen –LaTeX and Friends, Springer, 2012</li> <li>3. Michel Goossens, Frank Mittelbach, Sebastian Rahtz, Denis Roegel, Herbert Voss – The LaTeX Graphics Companion, 2nd edition, Addison-Wesley, 2008</li> <li>4. George Gratzer - More Math into LaTeX, Springer, 2007</li> <li>5. Leslie Lamport - LaTeX (ediția a doua), Addison-Wesley, 1995</li> <li>6. Thomas E. Price, Lance Carnes – LaTeX, Quick Start, Personal TeX, Inc., 2009</li> </ol>		

**9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program**

The learnt notions can be capitalized by writing scientific and/or teaching works.

**10. Evaluation**

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	knowledge of the basic notions and results	No final written exam	0%
	knowledge of the proofs for the main theoretical results		
10.5 Seminar/lab activities	Homework including problems based on the theory presented at the lecture	Active participation in the teaching activities and preparing the homework assigned	100%
10.6 Minimum performance standards			
<input type="checkbox"/> In order to enter the exam, students must accumulate at least 5 points for the activity during the year by the end of the semester.			

Date

Signature of course coordinator

Signature of seminar coordinator

23.05.2022

Lect. dr. Anca Grad

Lect. dr. Anca Grad

Date of approval

Signature of the head of department

Prof. Laura Diosan

24.05.2022