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	Mathematics
1.4 Field of study	Electronic Engineering, Telecommunications and Information Technologies
1.5 Cycle of study	Bachelor of Science
1.6 Program of study / Qualification	Telecommunications Technologies and Systems/ Engineer Applied Electronics/Engineer
1.7 Form of education	Full time
1.8 Subject code	TST-E06.00/EA-E06.00

2. Data about the subject

2.1 Subject name	Applied Informatics						
2.2 Subject area	Theoretical area Methodological area Analytic area						
2.3 Course responsible	Assist. Prof. Rajmond JANO, Ph.D. – Rajmond.Jano@ael.utcluj.ro						
2.4 Teacher in charge with seminar / laboratory / project	Assist. Prof. Rajmond JANO, Ph.D. – Rajmond.Jano@ael.utcluj.ro Assist. Adelina Ioana ILIES, Ph.D. – Adelina.Ilies@ael.utcluj.ro						
2.5 Year of study	I	2.6 Semester	1	2.7 Assessment	V	2.8 Subject category	DF/DI

3. Estimated total time

3.1 Number of hours per week	4	of which: 3.2 course	2	3.3 seminar / laboratory	2
3.4 To Total hours in the curriculum	56	of which: 3.5 course	28	3.6 seminar / laboratory	28

Distribution of time	hours
Manual, lecture material and notes, bibliography	28
Supplementary study in the library, online specialized platforms and in the field	28
Preparation for seminars / laboratories, homework, reports, portfolios and essays	7
Tutoring	2
Exams and tests	4
Other activities:	-

3.7 Total hours of individual study	69
3.8 Total hours per semester	125
3.9 Number of credit points	5

4. Pre-requisites (where appropriate)

4.1 curriculum	
4.2 competence	- Basic principles of computer operation - Basic principles of text editing in dedicated applications

5. Requirements (where appropriate)

5.1. for the course	N/A
5.2. for the seminars / laboratories / projects	N/A

6. Specific competences

Professional competences	C3. Application of the basic knowledge, concepts and methods regarding the architecture of computer systems, microprocessors, microcontrollers, languages and programming techniques C4. Design, implementation and operation of data, voice, video and multimedia services. This is based on the understanding and the application of fundamental concepts in telecommunications and transmission of information C5. Selecting, installing, configuring and operating fixed or mobile telecommunications equipment. Equipping a site with usual telecommunications networks
Transversal competences	N/A

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

7.1 General objective	Development of competences in the field of the use of computers as productivity tools in the field of engineering
7.2 Specific objectives	1. Assimilation of theoretical knowledge regarding operation and troubleshooting of computers 2. Obtaining the skills for creating documents with a professional aspect and processing and presenting the data obtained from experimental results using the computer

8. Contents

8.1 Lecture (syllabus)	Teaching methods	Notes
1. Software concepts. The structure and functioning of an operating system. Disk partitioning. Choosing and installing the operating system. Initial configurations. Troubleshoot problems during installation.	Presentation. Discussions	Projector
2. Introduction to Microsoft Word 365. Formatting characters. Formatting paragraphs. Sections. Headers and footers.		
3. Advanced formatting techniques in Microsoft Word 365. Styles. Multilevel lists. Tables. Insert photos. References and bibliography.		
4. Advanced productivity techniques in Microsoft Word. Working with Office Clipboard. Editing equations. Table of contents. Final revision and formatting.		
5. Advanced data processing techniques in Microsoft		

Excel. Data entry and autocomplete. Formatting cells. Use of formulas. Tables, sorting and filtering. Data validation.		
6. Advanced data representation techniques in Microsoft Excel 365. Conditional formatting. Graphics.		
7. Information presentation techniques using Microsoft PowerPoint 365. Guide for oral presentations. Animations. Templates and slide master.		
8. Other utilities in the Microsoft Office 365 suite. Microsoft Visio, Outlook, OneNote.		
9. Online resources. Data storage on the cloud. Online applications Microsoft Office WebApps and Google Docs.		
10. Collecting and processing opinions. Creating opinion studies. Using the Google Forms utility.		
11. Networking concepts. Types of networks. Common equipment for creating and managing computer networks. Creating and configuring a local network.		
12. Data transmission. Safety concepts in computer networks.		
Bibliography 1. S. M. Freund, M. Z. Last, P. J. Pratt, et al, „Discovering Computers & Microsoft Office 365 Office 2016 – A Fundamental Combined Approach", ¬2017, Cengage Learning, ISBN 978-1-305-87180-9 2. J. Walkenbach, „Microsoft Excel 2016 Bible", 2016, Wiley, ISBN 978-1-119-06751-1 3. R. Tidrwo, J. Boyce, J. Shapiro, „Windows 10 Anniversary Update Bible", 2017, Wiley, ISBN 978-1-119-35633-2		
8.2 Seminar / laboratory / project	Teaching methods	Notes
1. Introduction of laboratory equipment. Use of computer systems. Writing formal emails.	Presentation. Discussions	Computer, Microsoft Office 365 suite, browser
2. Disassembly, maintenance, troubleshooting and reassembly of a computer system. Application of thermal paste to the processor.		
3. Installing the Microsoft Windows 7/10 operating system. Hard disk partitioning. Initial configuration of the operating system.		
4. Advanced Microsoft Word formatting techniques. Character level formatting. Formatting at paragraph level. Document level formatting. Tables and pictures.		
5. Advanced Microsoft Word formatting techniques. Defining and modifying some styles. Working with headers and footers. Generation of bibliography and table of contents.		
6. Advanced techniques for data collection, processing and representation in Microsoft Excel 365. Data entry. Formulas and graphs.		

7. Questions and exercises. Assessment of knowledge.		
8. Advanced techniques for data collection, processing and representation in Microsoft Excel. Conditional formatting.		
9. Advanced techniques for data collection, processing and representation in Microsoft Excel. Graphic representations.		
10. Questions and exercises. Assessment of knowledge.		
11. Create an oral presentation on Microsoft PowerPoint support.		
12. Use of Google Forms to create an online opinion study, collate, interpret and represent the results received.		
13. Creating and configuring a local computer network and configuring the necessary equipment: switch, router, modem.		
14. Questions and exercises. Assessment of knowledge.		

Bibliography

1. S. M. Freund, M. Z. Last, P. J. Pratt, et al, „Discovering Computers & Microsoft Office 365 Office 2016 – A Fundamental Combined Approach", ¬2017, Cengage Learning, ISBN 978-1-305-87180-9
2. J. Walkenbach, „Microsoft Excel 2016 Bible", 2016, Wiley, ISBN 978-1-119-06751-1
3. R. Tidrwo, J. Boyce, J. Shapiro, „Windows 10 Anniversary Update Bible", 2017, Wiley, ISBN 978-1-119-35633-2

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 (Electronics Engineer; Telecommunications Engineer; Electronics Design Engineer; System and Computer Design Engineer; Communications Design Engineer) or in the new occupations proposed to be included in COR (Sale Support Engineer; Multimedia Applications Developer; Network Engineer; Communications Systems Test Engineer; Project Manager; Traffic Engineer; Communications 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	Evaluation during the semester (written and practical)	20%
10.5 Seminar/ Laboratory	The level of acquired knowledge and abilities	Two evaluations during the semester (written and practical)	40% 40%
10.6 Minimum standard of performance			
Quantitative level: ✓ Perform all laboratory work ✓ The exam and laboratory marks must be at least 5			

Date of filling in:	Responsible	Title First name SURNAME	Signature
16.06.2025	Course	Assist. Prof. Rajmond JANO, Ph.D.	
	Applications	Assist. Prof. Rajmond JANO, Ph.D.	
		Assist. Adelina Ioana ILIES, Ph.D.	

Date of approval in the Council of the Communications Department 18.06.2025	Head of Communications Department Prof. Virgil DOBROTA, Ph.D.
Date of approval in the Council of the Faculty of Electronics, Telecommunications and Information Technology 25.06.2025	Dean Prof. Ovidiu POP, Ph.D.