SYLLABUS

1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Electronics, Telecommunications and Information Technology
1.3	Department	Applied Electronics
1.4	Field of study	Electronics and Telecommunications Engineering
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					Electronics and Telecommunications Engineering					
2.3	Course responsible/lecturer					Assist. Jánó Rajmond, PhD eng.					
2.4	Teachers in charge of applications					Assist. Jánó Rajmond, PhD eng.					
2.5	Year of study	I	2.6	Semester	2	2.7	Assessment	Verif.	2.8	Subject category	DF/DOB

3. Estimated total time

Year / Sem.	Subject name	No. of weeks	Course [hours/week]	Applications [hours/week] S	Applications [hours/week] L	Applications [hours/week] P	Course [hours/sem.]	Applications [hours/sem.] S	Applications [hours/sem.] L	Applications [hours/sem.] P	Indiv. study [hours/sem.]	TOTAL	Credits
IV/II	Data Acquisition Systems	14	2		1		28		14		62	104	4

3.1	Number of hours per week	3	3.2	of which, course	2	3.3	applications		1
3.4	Total hours in the curriculum	42	3.5	of which, course	28	3.6	applications		14
Individual study									Hours
Manual, lecture material and notes, bibliography									28
Supplementary study in the library, online and in the field									4
Preparation for seminars/laboratory works, homework, reports, portfolios, essays									28
Tutoring									2
Exams and tests									2
Other activities									-

3.7	Total hours of individual study	78
3.8	Total hours per semester	104
3.9	Number of credit points	4

4. Pre-requisites (where appropriate)

4.1	Curriculum	
4.2	Competence	Basic Digital Competences in computer operation obtained in High School

5. Requirements (where appropriate)

5.1	For the course	Computer laboratory, Cluj-Napoca
5.2	For the applications	Computer laboratory, Cluj-Napoca

6. Specific competences

Professional competences	Theoretical knowledge (what the student must know):	- Basic principles in operating the computer - Basic principles in editing texts in dedicated applications
	Acquired skills (what the student is able to do):	After completing the discipline, students will be able to: - To design and assemble a computer system (PC) from components - Install and debug the installation of a Microsoft Windows operating system - To professionally edit documents in Microsoft Office 2013 suite - Create professional templates for documents in Microsoft Office 2013 suite - Process and advanced format data, create graphs in Microsoft Office 2013 suite - To create presentations using the Microsoft Office 2013 suite - Create online surveys and to gather and interpret the results - Work with cloud utilities (Microsoft Office webapps, Google Docs) - To design simple local area networks (LAN)
	Acquired abilities: (what type of equipment the student is able to handle)	After completing the discipline, students will be able to: - troubleshoot hardware of a computer system (PC) - troubleshoot software of a computer system (PC) - install and configure the necessary hardware for creating a simple local area network (LAN): modem, switch, router
	In accordance with Grila1 and Grila2 RNCIS	C3. To apply knowledge, concepts and basic methods regarding computing systems' architecture, microprocessors, microcontrollers, programming languages and techniques C4. To design, implement and operate data, voice, video and multimedia services, based on the understanding and application of fundamental concepts from the field of communications and information transmission. C5. To select, install, configure and exploit fixed and mobile telecommunications equipment. To equip a site with common telecommunications networks.
Cross competences (Grila1 and Grila2 RNCIS)		N.A.

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

7.1	General objectives	Develop skills in the use of computers as productivity tools
7.2	Specific objectives	1. Assimilation of theoretical knowledge about computer operation and troubleshooting 2. Obtain skills to create professional looking documents and

		learn data processing and presentation of experimental results obtained with the aid of a computer.

8. Contents

8.1. Lecture (syllabus)		Teaching methods	Notes
1	Introduction	Presentation, heuristic conversation, exemplification, teaching exercise, case study, formative evaluation	Use of .ppt presentation, projector, blackboard
2	Hardware concepts. Components and operation of a computer system. Assembly and component compatibility. Designing a computer system. Maintenance and troubleshooting computers.		
3	Software concepts. Structure and function of an operating system. Partitioning the disk. Choosing and installing the operating system. Initial setup. Troubleshoot problems arising from installation		
4	Introduction to Microsoft Word 2013 Formatting characters. Formatting paragraphs. Section. Headers and footers.		
5	Advanced techniques in Microsoft Word 2013. Formatting styles. Multilevel lists. Tables. Inserting pictures. References and bibliography.		
6	Advanced productivity techniques in Microsoft Word 2013. Working with the Office Clipboard. Editing equations. Table of content. Review and final formatting.		
7	Advanced techniques for processing data in Microsoft Excel 2013. Data input and autocomplete. Formatting cells. The use of the formulas. Tables, sorting and filtering. Data validation.		
8	Advanced techniques for data representation in Microsoft Excel 2013. Conditional formatting. Charts.		
9	Techniques for presenting information using Microsoft PowerPoirnt 2013. Guide for oral presentations. Animations. Templates and slide master.		
10	Other tools in Microsoft Office 2013. Microsoft Visio, Outlook, OneNote 2013.		
11	Online Resources. Data storage on the cloud. Microsoft Office Online Applications and Google Docs WebApps.		
12	Collection and processing of opinions. Creating surveys. Using Google Forms utility.		
13	Networking Concepts. Types of networks. Common equipment for creating and managing computer networks. Creating and configuring a local network.		
14	Data transmission. Safety concepts in computer networks.		

8.3. Applications (lab.)		Teaching methods	Notes
1	Disassembly, maintenance, repair and reassembly of a computer system. Applying thermal paste to the CPU.	Didactic and experimental proof, didactic exercise, team work	Use of laboratory instrumentation, experimental boards, computers
2	Installing Microsoft Windows 7 operating system. Partitioning the hard drive. Initial configuration of the operating system.		
3	Advanced techniques for formatting in Microsoft Word 2013. Defining and modifying styles. Working with headers and footers. Generate a table of contents and bibliography.		
4	Advanced techniques for collecting, processing and presentation of data in Microsoft Excel 2013. Conditional formatting, graphics.		
5	Creating an oral presentation in Microsoft PowerPoint 2013.		
6	Using Google Forms to create a public opinion survey online, collection, interpretation and representation of the results received.		
7	Designing and setting up a local network and configure the necessary equipment: switch, router, modem.		

Bibliography

1. J. Walkenbach, “Microsoft Excel 2013 Bible”, John Wiley & Sons, Inc., Indianapolis ISBN 978-1-118-49036-5
2. L. A. Bucki, J. Walkenbach, F. Wempen, M. Alexander, D. Kusleika, “Microsoft Office 2013 Bible”, John Wiley & Sons, Inc., Indianapolis, IN, ISBN: 978-1-118-48809-6
3. Microsoft Inc., “Microsoft Official Academic Course: Microsoft Office: 2013 Edition”, John

Wiley & Sons, Inc., Indianapolis, ISBN 978-0-470-13306-4
4. F. Wempen, , "Microsoft PowerPoint 2013 Bible", John Wiley & Sons, Inc., Indianapolis, IN, ISBN: 978-1-118-48811-9
5. S. A. Helmers, "Step by Step: Microsoft Visio 2013", O'Reilly Media, Inc, Sebastopol, CA, ISBN: 978-0-7356-6946-8
6. L. A. Bucki, "Microsoft Word 2013 Bible", John Wiley & Sons, Inc., Indianapolis, IN, ISBN: 978-1-118-48812-6

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

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. Evaluations

Activity type	10.1	Assessment criteria	10.2	Assessment methods	10.3	Weight in the final grade
Course		The level of acquired theoretical knowledge and practical skills		Evaluation during the semester		20%
Applications		The level of acquired abilities based on small projects Individual evaluations of skills		Evaluation during the semester		40% 40%
10.4 Minimum standard of performance						
Mark 5 should be achieved at all points mentioned under the evaluation criteria.						

Date of filling in
26.01.2015

Course responsible
Assist. Jánó Rajmond, PhD eng.

Teachers in charge of applications
Assist. Jánó Rajmond, PhD eng.

Date of approval in the department
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Head of department
Prof. Dorin Petreus, PhD eng.