COURSE DESCRIPTION

1. Information about the programme

1.1 Institution of higher education	**Alexandru Ioan Cuza University of Iasi**
1.2 Faculty	**Faculty of Economics and Business Administration**
1.3 Department	Accounting, Business Informatics and Statistics
1.4 Field of study	**Business Administration**
1.5 Level	**Master**
1.6 Study programme/ Qualification	**Software Development and Business Information Systems**

2. Information about the course

2.1 Course name	**Research Project**						
2.2 Course coordinator	**-**						
2.3 Seminar coordinator	**Prof. dr. Alexandru TUGUI, Prof. dr. Marin FOTACHE**						
2.4 Year of study	**II**	**2.5** Semester	**IV**	**2.6** Type of assessment	**P**	**2.7** Course status	**C**

* C – Compulsory / E - Elective

3. Total estimated time (hours alloted to teaching activities per semester)

3.1 Number of hours per week	**1**	of which: **3.2** lecture	**0**	**3.3** seminar/lab	**1**
3.4 Number of hours in the curriculum	**14**	of which: **3.5** lecture	**0**	**3.6** seminar/lab	**14**

Time distribution	
Study of the textbook, coursebook, bibliography and lecture notes	**28**
Additional research in the library, online and on the field	**40**
Preparation of seminars/labs, homework, projects, portfolios and essays	**28**
Tutorials	**10**
Assessment	**5**
Other activities..................................	**0**

3.7 Total number of self-study hours	**111**
3.8 Total number of hours per semester	**125**
3.9 Number of credits	**5**

4. Prerequisites (if applicable)

4.1 Curriculum-based	Not applicable
4.2 Competence-based	Not applicable

5. Conditions (if applicable)

5.1 For lectures	-
5.2 For seminars / labs	Computer lab with SPSS, R, MSO

6. Specific competencies

Professional competencies	C5.5 Elaborate a research project that identifies the trends and challenges within the field of software projects and IT services management (2 credits) C6.5 Case study development concerning modeling, design and implementation of business processes using statistical tools (2 credits)
Transversal competencies	CT1 – The ability to communicate and collaborate in teams of different professionals (0.5 credits) CT3 – Continuous improvement of specific skills and knowledge towards approaching information systems, development of new software technologies and management of information systems (0.5 credits)

7. Course objectives (provided by the specific competencies grid)

7.1. Main objective	To provide the core knowledge, methodologies and technics for research projects
7.2. Specific objectives	• Knowledge of logic architecture of research project • Knowledge and skills for the development of research projects in accord of science methodology • Development the capabilities of sinthesis and analysis, of integration and communication • Ability to identify the technological opportunities for research • Skills in using statistical platforms (R) for data exploration and analysis

8. Content

8.1	Lectures	Teaching methods	Observations (hours & readings)
8.2	**Seminars / Labs**	**Teaching methods**	**Observations (hours & readings)**
1.	**Part I – Theoretical foundations of research**		
2.	The fundamentals of scientific papers. Species. Structures and Styles (APA and MLA) Research concepts: Objectives, Goal, Problem, Question, Hypothesys, Model of research.	PPT presentation, explanation, conversation, questioning.	1 h
3.	Rules of writing.	Individual Lecture conversation, questioning.	Individual Lecture (4h). 2 h discusion
4.	Study case: Poster and book review. Framework, Structures, Examples, Analyzes.	PPT presentation, explanation, conversation, questioning.	1 h

5.	Research logic in information systems: Experiment, Study case, Scenarios, Posters, Datasets, Addendum/Corrections, Softwares/Algorithms .	PPT presentation, explanation, conversation, questioning.	1 h
6.	The basic of qualitative research: Interview, Observation, Focus Group, Structures (Introduction, Method, Sample, Data Analysis, Conclusions).	Individual Lecture conversation, questioning.	Individual Lecture (4). 1 h discusion
7.	Study case: Literature review.	PPT presentation, explanation, conversation, questioning.	1 h
8.	Study case: Research/Original paper (Abstract, Introduction, Literature Review, Methodology, Date, Results and Conclusions)	PPT presentation, explanation, conversation, questioning.	1 h
	Part II – Data Analysis. Graphics, Descriptive and inferential statistics in R		
9.	Installing and working with R and R Studio	Examples, R scripts execution, case studies	1h
10.	Connection (from R) to various data sources: relational/SQL data bases, .csv, .xls, files, NoSQL data stores, html tables, xml data, SPSS, SAS, Stata, etc. Exporting data from R	Examples, R scripts execution, case studies	1h
11.	Data processing with the tidy-verse	Examples, R scripts execution, case studies	1h
12.	Data visualization with ggplot2 package	Examples, R scripts execution, case studies	1 h
12.	Exploratory data analysis, including variable distribution and various statistiscal tests for nominal and numerical data analysis: - chi-square test (goodness of fit, independence, homogeneity), Fisher's exact test, etc. - normality tests, variance homogeneity tests - t-test, Mann Whitney U (Wilcoxon Rank-Sum Test) Mann-Whitney (Wilcoxon) test, Wilcoxon Signed-Rank test - ANOVA, Kruskal–Wallis test	Examples, R scripts execution, case studies	1 h
13.	Linear regression - OLS, robust and non-parametric regression	Examples, R scripts execution, case studies	1 h
14.	Survey data analysis: package 'likert'	Examples, R scripts execution, case studiesx	X

Bibliography
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4.Ferréol, Gilles, Flageul, Noël, *Metode şi tehnici de exprimare scrisă şi orală*, Ed. Polirom, Iaşi, 2007.
5. Fotache M., 2017, R for Research, UAIC, FEAA, Iaşi, (available on the FEAA Portal)
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7. Hackett, E., Amsterdamska, O., Lynch, M., Wajcman, J., Bijker, W. (2007), The Handbook of Science and Technology Studies, 3rd edition, The MIT Press.
8.Saunders, Mark, N.K., Lewis, Philip, Thornhill, Adrian, *Research Methods for Business Students*, Pearson

Education Limited, 2000.
9.Schuwer, Philippe, *Tratat practic de editare*, Timişoara, Ed. Amarcord, 1999.
Sismondo, S. (2009), An Introduction to Science and Technology Studies, 2nd edition, Wiley-Blackwell
10.Şerbănescu, Andra, *Cum se scrie un text*, Ed. Polirom, Iaşi, 2007.
11. Rad, Ilie, *Cum se scrie un text ştiinţific*, Iaşi, Ed. Polirom, 2008.
12. American Psychological Association, *The Publication Manual of the American Psychological Association,* 6th ed. Washington, DC, 2009
13. Sternberg, Robert. *The Psychologist's Companion. A Guide to Scientific Writing for Students and Researchers*, 4th ed, Cambridge, Cambridge University Press, 2003

9. Corroboration of the course content with the expectations of community representatives, professional associations and representative employers from the programme's related field

The content of this discipline has been decided upon by taking into account the curricula of some prestigious universities according Bolgnia standards.

10. Assessment

Type of activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in final grade (%)
10.4 Lectures	-	-	-
		-	-
10.5 Seminars/ Labs	Short Paper	Individual Evaluation	100%

10.6 Minimum performance standard

Formula grade: 100% Research project
Deadline 21.05.2023.
Maximum degree of similarity in Turnitin: 40%.
Projects with more than 30% of similarity's degree are automatically marked with 4 (four).
The project is individual.
After 21.05.23 the project can no longer be subscribed.

Minim grade is 5(five).

Date   Course Coordinator   Seminar Coordinator

20.09.2022   Prof. dr. TUGUI Alexandru
                                        Prof. Dr. Marin FOTACHE

Date of approval   Head of Department
                                        Prof. dr. DUMITRIU Florin