

University of Agricultural Sciences and Veterinary Medicine of Iași

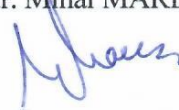
Department: Sciences

Specialty: Veterinary Medicine

Discipline: Applied Mathematics in
Biological Sciences and Informatics

Approved, Dean

Prof. dr. Mihai MAREȘ



DISCIPLINE DATASHEET

I Level of studies:	BSc	x	Master		PhD	
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II Discipline Status:	Mandatory	x	Optional		Facultative	
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III

Category¹:	DF	Evaluation (E/V/C)	C	Number of credits	4
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IV Structure (hours per week)

Year/semester	Lecture	Seminar	Laboratory	Project	Individual study	Total hours per semester ³
1/1	1		2		78	120

V. Didactic personnel

	Curs	Laborator/Seminar	Proiect
Name and surname	Chiruță Ciprian	Chiruță Ciprian	
Scientific title	PhD	PhD	
Degree	Lecturer	Lecturer	
Employment	Full time	Full time	
Age	47	47	

VI.

General purpose of the discipline

- Learning how to use general purpose software (spreadsheet) in performing statistics and other mathematical computing with applications in biological sciences.

VII. Specific professional skills

1. Theoretical skills:

- Identifying quantitative and qualitative characteristics in a given situation
- Proper representation of empirical data
- Utilisation of algorithms and concepts necessary to characterise a real world situation.

2. Explanatory and rendering skills:

- Identifying the necessary elements for data processing
- Performing specific operations in spreadsheet utilisation and data processing.
- Using the available information in choosing the appropriate data processing methods.

3. Instrumental and application skills.

- Developing skills in solving problems through software data processing
- Using test data to validate solutions correctness.

4. Attitudinal:

- Developing thought discipline.
- Forming habits in using IT concepts in problem solving.

VIII. Pre-requisites: High school elementary math

IX. Discipline contents:**a. Lectures**

<i>Chapter</i>	<i>Contents</i>	<i>Hours</i>
<i>Semester I</i>		
General and specific utilisation of Microsoft Excel		
1	Basics. Spreadsheet structure and utilisation.	3
2	Editing operations.	2
3	Formatting. Charts.	2
4	Data tables (lists) processing.	2
5	General functions utilisation.	2
6	Using functions in solving biomathematical problems.	3
<i>Total lecture hours</i>		14

c. Practical applications

<i>Application</i>	<i>Title</i>	<i>Hours</i>
<i>Semester I</i>		
1	Remember MS Word. Basics. Formatting. Working with tables.	2
2	Remember MS Word. Advanced utilisation in creating scientific texts.	2
3	Microsoft Excel. Basics. Data types.	2
4	Microsoft Excel. Formulas. Using references.	2
5	Microsoft Excel. Formatting the worksheet data.	2
6	Charts. Using functions.	2
7	Logical functions. Conditional sum and counting.	2
8	Data tables. Basics. Sorting. Conditional formatting.	2
9	Filtrering data tables. Pivot tables.	2
10	Database functions.	2
11	Statistical functions.	2
12	Using Excel in biomathematical applications (I).	2
13	Using Excel in biomathematical applications (II).	2
14	Examination (solving an Excel problem)	2
<i>Total application hours</i>		28

X. Didactic methods and strategies

<i>Delivering information</i>	
<i>Activity</i>	<i>Methods</i>
Lecture	- PowerPoint presentations; - debate on the approached topics
Practical applications	- talk over the topics approached during the previous lecture hours - computer applications; solving problems using Excel

XI. Equipment

- **lecture:** overhead projector, laptop
- **practical applications:** desktop PC computers, Internet connection, Windows, MS Office.

XII. Evaluate

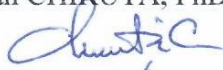
Tipul de evaluare	Forme de evaluare	Procent din nota finală
Collocutional exam	solving an Excel problem	80%
Laboratory	active involvement in topics debate	5%
Attendacne	continuous attendance	15%

XIII. Bibliography

1. Walkenbach J. – Excel 2007 Bible, Wiley Publishing Inc., 2007. ISBN-13 978-0-470-004403-2.
2. Vasisht S., Broe M. – The Foundation of Statistics: A Simulation-based Approach. Springer. ISBN 978-3-642-16312-8
3. Tyson H. – Word 2007 Bible. Wiley Publishing Inc., 2007. ISBN-13 978-0-470-04689-0.
4. Billo, E. J. – Excel for chemists: a comprehensive guide, Wiley Publishing Inc., 2007. ISBN-978-1-118-09393-1 (ebk)
5. Johnson S. – Show Me Microsoft Excel 2003, Pearson Education Inc, 2004. ISBN 978-1-59496-012-3
6. Statistical Analysis with Excel For Dummies, 3rd Edition, John Wiley & Sons, Inc., 2013, ISBN 978-1-118-46433-5 (ebk).

Advised in Department: 10.09.2021
Advised in Faculty Council 17.09.2021

Head of Department
Assistant Professor
Ciprian CHIRUTA, PhD



Course Coordinator
Assistant Professor
Ciprian CHIRUTA, PhD

