MATHEMATICS

Basic data of the subject	
Academic Unit:	Life and Environmental Sciences Faculty
Course title:	Mathematics
Program:	Agribusiness
Level:	Bachelor
Course status:	Compulsory
Study year:	First year, first semester
Number of hours per week:	3+2
Credit value – ECTS:	5
Time / location:	To be announced
Lecturer:	Prof. Asoc. Dr. Marjana Nikolla
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Course description:	Mathematics is the study of explaining and applying mathematical concepts. In ancient Greek, "matematika" means 'learning', aiming to encompass a deeper understanding of mathematics. The course covers fundamental concepts like algebra, probability theory, and mathematical statistics, with the overall goal of providing clear understanding and profound knowledge for applications in other sciences and daily life.
Course objectives:	The dendrometry facility is the description and biometric representation of woods and forest stands, by identifying the laws on the tree shape, the structure of trees and stands and on this basis elaborates methods for their measurement, volume estimation, cluster, structure, etc. Measuring trees and forests is fundamental to the practice of forestry and forestry sciences. Measurements are made to understand how the forests behave and to make sure they are managed correctly.

	After completing this course:
Learning outcomes:	1. Students will be able to recall applied mathematical concepts in the forest and natural environment. 2. They will be capable of explaining the connections between mathematics and environmental processes, emphasizing their understanding. 3. Through solving various problems, students will apply mathematical concepts in the context of forestry and environmental sciences. 4. They will analyze environmental data by identifying complex relationships between mathematical variables and environmental elements. 5. By constructing mathematical models, students will

	create a new perspective and use mathematics to predict changes in the environment. 6. They will assess the effectiveness of using mathematics in decision-making and natural resource management, developing a critical perspective on environmental information.

Contribution on student load (must correspond with learning outcomes)			
Activity	**Hours**	**Days/week**	**Total**
Lectures	3	15	45
Exercise theoretical/laboratory	1	15	15
Practice work			
Contact with lecturer/consultations	1	5	5
Field exercises	2	1	2
Mid-terms, seminars	2	1	2
Homework	-	-	-
Individual time spent studying (at the library or home)	2	15	30
Final preparation for the exam	3	6	18
Time spent in evaluation (tests, quiz, final exam)	3	2	6
Projects, presentations, etc.	2	1	2
Total			**150 hours (6 ECTS)**
Teaching methods :	Lectures, discussions, consultations, technical exercises, formula solutions, independent projects, colloquia, exams.		
Evaluation methods:	Coursework 10% Colloquia 30% Final examp 60%		
Literature			
Basic Literature:	F.Berisha, A.Zejnullahu – Matematika , Prishtine 2003		
Additional Literature:	A.Ahmeti- Matematika , Prishtine, 2015		

Designed study plan:		
Week	**Lectures**	**Exercises**
First week:	Notification to students about the course syllabus.	Exercises with tasks in elementary mathematics
Second week:	Basic Concepts in Mathematics and Logical Symbols.	Mathematical Logic. Understanding of judgment and operations with judgments.

Third week:	Real Numbers and Their Properties: The field of real numbers.	Representation of real numbers. Algebraic properties of real numbers.
Fourth week:	Mathematical Induction and Binomial Formula.	Complex Numbers: Algebraic Properties of Complex Numbers.
Fifth week:	Matrices and Matrix Operations.	Exercises with Matrices and Types of Matrices.
Sixth week:	Determinants and Systems of Linear Equations.	Tasks with Determinants. Systems of Linear Equations using the Determinant Method.
Seventh week:	Numerical Sequences and Progressions	Examples of Numerical Sequences and Progressions.
Eighth week:	The first test	The first test
Ninth week:	Function and Limit of a Single-Variable Function, and the Derivative of a SingleVariable Function.	Function and Limit of a Single-Variable Function, and the Derivative of a Single-Variable Function.
Tenth week:	Derivative of a Single-Variable Function and a Two-Variable Function.	Examples of the derivative of a single-variable function and a twovariable function.
Eleventh week:	Indefinite and Definite Integral	Indefinite and Definite Integral
Twelfth week:	Differential Equations	Differential Equations
Thirteenth week:	Elements of Probability Theory.	Elements of Probability Theory.
Fourteenth week:	Elements of Mathematical Statistics Theory.	Elements of Mathematical Statistics Theory.
Fifteenth week:	The final test	The final test
Academic policies and rules of conduct:		

- ✦ Students should be aware of and respect the institution and Code of ethics.
- ✦ Students should respect the schedule of lectures, and exercises and be attentive.
- ✦ It is mandatory to possess and presents a student ID card in the mid-terms and exam,
- ✦ During the compilation of course projects, students must adhere to the instructions given by the professor.

During the exam is forbidden the use of mobile phones.