UNIVERSITETI "KADRI ZEKA" UNIVERSITY

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SYLLABUS

Course: **Mathematic Analysis 1**

Basic information of the course	
Academic unit:	**FAS**
Course Title:	**Mathematic Analysis 1**
Level:	**Bachelor**
Program:	**Mathematic Education**
Course status:	**Obligatory**
Academic year:	**2019/2020**
Year of study:	**Year I, Semester I**
Number of hours per week:	**3+2**
Credits – ECTS:	**7 ECTS**
Timer / Location:	
Professor of subject:	**Prof. Ass. Dr.**
Contact details:	
Description, Objectives and expected resultes	
Course description:	**Contents of the course include: Numeric sequences; properties of numeric sequences; convergenc and divergenc of sequences; numerical series and they proporties; Tests of convergence for numerical series; limit and continues of functions; derivates and differentiales of functions; variation of functions.**
Objectives of the course:	***Mathematical analysis 1* aims to integrate training of professionals in the field of mathematics education bachelor studies.** **The course objective is to acquaint students with the basics of knowledge in *Mathematic analysis*. Another goal is to develop the skills and abilities of students so that they successfully solve concrete problems in field of mathematics whenever required implementation *Mathematic analysis.***
Expected learning outcomes:	**After successful completion of the course *Mathematic analysis 1*, students will be able to:** • **recognized and understanding numerical sequences and they nature and to implement this knowledge in solving various problems.** • **recognized and understanding numerical series.** • **recognized and understanding limit of functions and continues functions.** • **recognized and understanding derivativ, and they proporties for functions with one real variables.** • **to become familiar with concept of derivatiev and to implement for study of functions.**

Student contribution			
Activity	**Hours**	**Day / Week**	**Total**
Lectures	3	15	45
Theoretical exercises / laboratory	2	15	30
Contacts with teacher / consultations	1	15	15
Collocfiums, seminars	3	2	6
Homework	1	15	15
Self-learning time student (at the library or at home)	1	15	15
Final preparation for the exam	2	15	30
Projects, seminars, presentations, etc.	3	1	9
Total			**165**
165:25≈7 ECTS.			

Teaching methodology and assessment methods	
Teaching methodology:	Regular lessons, lectures, consultations, discussions, individual independent work, term papers (homework), presentations.
Methods of assessment:	The exam consists of a written part and the oral part. The assessment is based on the following activities: Participation and engagement in hours (10%) (Koll.) Test 1-40% (written examination) (Koll.) Test 2-40% (written examination) Seminar papers (individual independent work) - 10% Final exam: 80% (for those who do not pass kollokfiumet). Points Score 91-100 10 81-90 9 71-80 8 61-70 7 51-60 6

Literature	
Base literature:	• **Ligjerata të autorizuara nga profesori, Gjilan. 2019.** • **Tanush Shaska, Kalkulus 1, second edition, ISBN-13: 978-1-60985-000-5, ISBN-10: 1-60985-000-9, 2011.** • **S. Lang, *A first Course in Calculus*, 5th edition, Springer Verlag, 1986.** • **Paul Dawkins, Calculus 1, 2018**

Designed teaching plan:	
Week	**The lecture to be held**
I - week :	**Numeric Sequnces**
II - week :	**Limit of numeric sequence**
III - week **:**	**Definition of convergent and divergent sequences. Examples.**
IV - week :	**Properties of convergent and divergent sequences.**
V - week:	**Definition of numerical series. Examples.**
VI- week	**Numerical series**
VII-week	**The first colloquium.**
VIII-week	**Limit of functions. Problem of tangents and speed. Infinite limits.**
IX-week	**Limit of functions. Rules of limits.**

X-week	**Continuous functions**
XI-week	**Definition of Derivatives. Geometrical interpretation of derivate.**
XII-week	**Rules of derivation.**
XIII-week	**Application of derivation. Min and max values.**
XIV-week	**Study of complete function.**
XV-week	**The second colloquium.**
Academic policies and rules of etiquette:	
Regular attendance of students assessed with 10 points, **- Students are free to ask questions and active participation in all teaching activity.** **- They are not allowed cell phones, late arrival or departure from the class without reason.** **- Plagiarism and copying in exams are penalized under the statute and other regulations of the university.** **- The Code of conduct applies to both students and teachers.**	