UNIVERSITETI "KADRI ZEKA" UNIVERSITY

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SYLLABUS

Course: ***Differential equations***

Basic information of the course	
Academic unit:	**FAS**
Course Title:	**DIFFERENTIAL EQUATIONS**
Level:	**Bachelor**
Program:	**Mathematic Education**
Course status:	**Elective**
Academic year:	**2019/2020**
Year of study:	**Year II, Semester IV**
Number of hours per week:	**3+2**
Credits – ECTS:	**6 ECTS**
Timer / Location:	
Professor of subject:	**Prof. Ass. Dr.**
Contact details:	
Description, Objectives and expected resultes	
Course description:	***Contents of the course Differential equations include*: Mining of the differential equation; first order differential equation; second order linear differential equations; linear of high order differential equations; system of differential equation; partial differential equations.**
Objectives of the course:	***Differential equations* aim to integrate training of professionals in the field of science mathematics education bachelor studies.** **The course objective is to acquaint students with the basics of knowledge in *Differential equations*. 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 *Differential equations***
Expected learning outcomes:	**After successful completion of the course *Differential equations*, students will be able to:** • **gained an appreciation for the role-playing methods for solving differential equations.** • **Learn how to use techniques to solve differential equations.** • **achieve a skill in solving specific problems by using software as well.** • **Develop critical thinking and enhance justification for solving various problems.**

Student contribution			
Activity	**Hours**	**Day / Week**	**Total**
Lectures	2	15	30
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	3	9
Total			**150**
150:25≈6 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 colloquiums).** **Points Score** **91-100 10** **81-90 9** **71-80 8** **61-70 7** **51-60 6**
Literature	
Base literature:	• **Luigj Gjoka , Alfred Daci, Analiza C (ekuacionet diferenciale, Sisteme dinamike), Tiranë 2014.** • **W. Kaplan, Advanced Calculusi, Fifth Edition. Addisson-Wesley Publishing Company, Redwood City, California, 2003.** • **Jeffrey R. Chasnov, Introduction to Differential Equations, 2016, Hong Kong**

Designed teaching plan:	
Week	**The lecture to be held**
I - week :	Basic knowledge. Construction of ODE
II - week :	Definition of the first order of differential equations. Examples.
III - week **:**	Properties of the first order of differential equations.
IV - week :	Solution of the first order of differential equations.
V - week:	Solution of the first order of differential equations.. Theoretical exercise.
VI- week	Application examples of the first order of differential equations.
VII-week	The first colloquium.
VIII-week	Definition of the second order of equations. Examples.

IX-week	Properties of the second order of differential equations.
X-week	Definition of the of high order of differential equations. Examples.
XI-week	Properties of high order of differential equations .
XII-week	Definition of systems of differential equations.
XIII-week	Solutions of systems of differential equations
XIV-week	Partial differential equations.
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.**	