COURSE NAME	Complex analysis						
Code	PMM116	Year of study	3rd year of undergraduate study				
Course teacher	Jurica Perić	Credits (ECTS)	6				
Associate teachers		Type of instruction (number of hours)	L	S	E		
			30		30		
Status of the course	COMPULSORY COURSE	Percentage of application of e-learning	30%				

COURSE DESCRIPTION	
Course objectives	Aim of the course aims is to introduce basic concepts and results from the theory of complex functions of a complex variable, with an emphasis on the theory of analytical functions. Students must develop the ability of understanding the results presented in the lectures as well as setting up and solving tasks and problems that may be found in connection with these results. Techniques to solve tasks students acquire on the exercises.
Course enrolment requirements and entry competences required for the course	Taken course „Foundation of mathematical analysis“.
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	The student is able to: - analyze the topological properties of a set of complex numbers - analyze the importance of the Cauchy-Riemann conditions - distinguish differentiable complex functions and functions of real variables - connect differentiability with integral along closed curve (general Cauchy theorem) - relate analyticity and development in order (Taylor and Laurent Development) - classify singularities (pole, removable and essential singularity) - apply the acquired knowledge on residuums in the calculation of special improper integrals
Course content broken down in detail by weekly class schedule (syllabus)	Complex numbers **C** - 2 hours Convergence of the series, closer of the set - 2 hours Complex functions of complex variables, continuity, limit - 2 hours Completeness - 2 hours Compactness - 2 hours Analytic functions, Cauchy-Riemann theorem - 2 hours Integral of the complex function - 2 hours General Cauchy theorem - 2 hours Cauchy's integral formula - 2 hours Series of functions - 2 hours Uniformly convergent series of functions - 2 hours Taylor and Laurent theorem - 2 hours Isolated singularities - 3 hours Residuum theorem and applications - 3 hours
Format of instruction	Lectures, exercises
Student responsibilities	Attendance at 70% of lectures.

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*	Attendance – 1 ECTS Colloquium – 1 ECTS Written exam – 1 ECTS Oral exam – 3 ECTS
Grading and evaluating student work in class and at the final exam	The exam is taken in written and oral form. Written exam is preliminary part of the exam and requirement for the oral exam is to pass a written exam. The written form of the exam can be taken partially, during class, where curriculum provided. Activity in class, solving homework, colloquium, written and oral examination are the elements from which form the final grade is formed.
Required literature (available in the library and via other media)	H. Kraljević, S. Kurepa, Matematička analiza 4/I*: Funkcije kompleksne varijable*, Tehn 1986. B. Červar, Kompleksna analiza, skripta Š. Ungar, Matematička analiza 4, (skripta), Zagreb, 2001.
Optional literature (at the time of submission of study programme proposal)	S. Kurepa, Matematička analiza III, Tehnička knjiga, Zagreb, 1975. W. Rudin, Real and complex analysis, McGraw-Hill, New York, 1970.
Quality assurance methods that ensure the acquisition of exit competences	Statistics of test results and student evaluation via anonymous questionnaires at the end of the course. The survey is conducted according to the rules of the University of Split.
Other (as the proposer wishes to add)	