Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
SOC162	Mathematics II	2	2	0	0	2	4

Prerequisites	
Admission Requirements	

Language of Instruction	French
Course Type	Compulsory
Course Level	Bachelor Degree
Objective	The course objective is to give to the studient the fundamental on differential and integral calculus, graphical representation of one real variable real functions and their optimization. The course also aims to give to the studient mathematical knowledge necessary for following up the course of statistics in the second year.
Content	1) Limit of a function, operations with limits. Computation of limits of indeterminate forms. 2) Meaning of the derivative of a function. Derivative rules for algebric functions. 3) Derivative rules for complex functions 4) Derivative of trigonometric and inverse trigonometric functions. Derivative of exponential and logarithmic functions. 5) Derivative of parametric and implicite functions 6) Applications of derivative and L'Hospital rule. 7) Graphs of a real function of one real variable. 8) Indefinite and definite intagral of a function. Techniques for finding the indefinite integral of a function. 9) Definite integral – Riemann integral.
References	

Theory Topics

Week	Weekly Contents
1	Limit of a function, operations with limits. Computation of limits of indeterminate forms.
2	Computation of limits of indeterminate forms.
3	Meaning of the derivative of a function. Derivative rules for algebric functions.
4	Derivative rules for complex functions.
5	Derivative of trigonometric and inverse trigonometric functions. Derivative of exponential and logarithmic functions.
6	Derivative of parametric and implicite functions.
7	Applications of derivative and L'Hospital rule.
8	Graphs of a real function of one real variable.
9	Mid-term Exam.
10	Graphs of a real function of one real variable.
11	Graphs of a real function of one real variable.
12	Indefinite and definite intagral of a function. Techniques for finding the indefinite integral of a function.
13	Techniques for finding the indefinite integral of a function.
14	Definite integral – Riemann integral.