**Tableau N° 2**

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| **Establishment** | **Faculty** | **Department** |
| *Mohamed Khider*  *University, Biskra* | *Faculty of Exact Sciences and Natural Sciences and Life* | *Mathematics* |
| **Domain** | **Study** | **Specialty** |
| *Mathematics and*  Computer sciences | *Analysis 2* | *----*  *----* |

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| **Course leader : *Mouloud CHERFAOUI*** | |
| **Cycle : License *First year*** | |
| **Course title: *Analysis 2*** | |
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| **Course content :** | |
| Chapter I | **Indefinite integrals**   * *Indefinite integral;* * *some properties of the indefinite integral;* * *Integration methods: Integration by change of variable, Integration by parts, Integration of rational expressions, Integration of irrational functions.* |
| Chapter II | **Definite integrals**   * *Definite integral, Properties of definite integrals,* * *Integral function of its upper bound,* * *Newton-Leibniz formula, Cauchy-Schwarz inequality,* * *Darboux sums-Conditions of the existence of the integral,* * *Properties of Darboux sums, integrability of continuous functions and monotonous.* |
| Chapter III | **First-order differential equations**   * *General, Classification of first-order differential equations,* * *Equation with separable variables, Homogeneous equations,* * *Linear equations,* * *Bernoulli method,* * *Method of variation of the Lagrange constant,* * *Bernoulli equation,* * *Total differential equation,* * *Riccati equation.* |
| Chapter IV | **Second-order differential equations with constant coefficients**   * *Homogeneous second-order differential equations with constant coefficients,* * *Inhomogeneous second-order differential equations with constant coefficients,* * *Methods for solving second-order differential equations with constant coefficients.* |