**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.*
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| 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.*
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| 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.*
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| 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.*
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