Mathematics VI - Integral calculus	
Department: Mathematics	**Key of the matter:** 813/820
Requirements: Have passed mathematics V of High School Mathematics	**Year:** Third
Weekly load: 5	**Date of elaboration** April 2017

Topics

Unit I

1.1. The differential of a function.
1.2. The antiderivative.
1.3. The indefinite integral.
1.4. Fundamental formulas of integration.
1.5. Algebraic devices for the application of formulas of the form .
1.6. Integration of trigonometric functions.
1.7. Integrals of trigonometric functions raised to a power n.

Unit II

2.1. Integration methods
- 2.1.1. Integration by parts.
- 2.1.2. Integration by trigonometric substitution (analysis of the three cases).
- 2.1.3. Integration by decomposition in simple fractions (study of the four cases).

Unit II

3.1. The definite integral.
3.2. Calculation of definite integrals.
3.3. Application of the defined integrals.
- 3.3.1. Calculation of areas.
- 3.3.2. Volumes of solids in revolution.