

MODULE CONTENT

UEF12 / F121 Series & Differential Equations

- Chapter 1: Simple and multiple integrals: Reminders on the Riemann integral and on the calculation of primitives. Double and triple integrals. Application to the calculation of areas, volumes, etc.
- Chapter 2: Improper integral: Integrals of functions defined on an unbounded interval. Integrals of functions defined on a bounded interval, infinite at one of the ends.
- Chapter 3: Differential equations: Ordinary differential equations of the 1st and 2nd order. Elements of partial differential equations.
- Chapter 4: Series: Numerical series. Sequences and series of functions. Whole series, Fourier series.
- Chapter 5: Laplace transformation: Definition and properties. Application to solving differential equations.
- Chapter 6: Fourier Transform: Definition and properties. Application to solving differential equations.