

## Faculty of Engineering & Technology

### Integration with Applications and Analytical Geometry

#### Information :

**Course Code :** EMP112

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Faculty of Engineering & Technology

#### Instructor Information :

Title	Name	Office hours
Lecturer	Ahmed Mahsoud Mohamed ElHadidi	1
Assistant Lecturer	TAREK ALI ABDALLAH TEAMA	
Assistant Lecturer	Reham Milad Kamel Samaan	

#### Description :

Calculus: Indefinite integrals and Change of variables. Definitions, properties and evaluation of definite integrals. Techniques of integration: Integration by parts, Trigonometric integrals, Trigonometric substitutions, Integral of rational functions, Quadratic expressions and substitutions, Integration by reduction. Applications of definite integral: Area, Volume, Arc length in parametric, Surface area of solid revolution, Integrals in parametric functions, Polar coordinates and their applications.

Analytical Geometry: Definitions and properties of conic sections, Translation and rotation of axes, Planes and lines in space, Cylindrical and spherical coordinates, Surface of second degree.