

## Math 261 (Analytic Geometry)

<b>Math 261</b>	<b>Analytic Geometry</b>	<b>Credits</b>	<b>Lec</b>	<b>Tut</b>
		<b>3</b>	<b>3</b>	<b>1</b>
<b>Course Summary</b>	Plane Analytic Geometry: Two Dimension coordinate system, First and Second degree equations, locus, lines, circles, conic sections, translation, rotation, conics in polar form, tracing of curves. Solid geometry: three dimensional coordinate system, planes, lines, and surfaces.			
<b>Prerequisites</b>	<b>Math 251</b>	<b>Calculus I</b>		
<b>Textbook</b>	Richard L. Burden, J. Douglas Faires	Numerical Analysis (Eighth Edition),	Brooks/ Cole, USA	2005

### Objectives:

- 1- To understand the relationship between Algebra and Geometry.
- 2- To understand the concepts of inclination, slope, and tangent.
- 3- To recognize the different formula for an equation of a line in a plane and space.
- 4- To see the difference among the distance between two points, distance from a point to a line, and a distance from a point to a plane.
- 5- To illustrate the difference between the standard form and the general form for an equation of a circle.
- 6- To study the conic sections and to understand its translation and rotation.
- 7- To understand the relationship between rectangular and polar coordinates.
- 8- To study the conic sections in polar coordinates.
- 9- To study the parametric equations.
- 10- Introduction to solid analytic geometry.
- 11- To introduce the concept of mathematical objects in space.
- 12- To study planes, lines, spheres and various other surfaces.

## Course description:

- 1- Coordinate system of two dimensions
- 2- Lines
- 3- Circles
- 4- Parabola, ellipse, hyperbola
- 5- Transformations of axes
- 6- Curves in polar coordinates
- 7- Coordinate system of three dimensions
- 8- Planes
- 9- Lines
- 10- Surfaces

## Teaching Schedule:

Delivery Type	Number	Lecture Length (hours)	Student Hours
Lecture	52	1	52
Tutorial	13	1	13
Private Study Hours			117
Total Contact Hours			65
Total Hours			182

## Methods of Assessment:

### 1- Coursework

Assessment Type	Notes (paper HW/Online)	% of Formal Assessment
In-course Assessment	Project 1	5
Project 2		10
Total Percentage		15%

## 2- Exams

<b>Assessment Type</b>	<b>Notes (MCQ, etc ...)</b>	<b>% of Formal Assessment</b>
First Exam	Written	20
First Quiz	Written	2.5
Second Exam	Written	20
Second Quiz	Written	2.5
Final Exam	Written	40
Total Percentage		85%