



United International University
School of Science and Engineering

Assignment-2 (Mid Term Exam) Trimester: Summer2024

Course Title: Coordinate Geometry and Vector Analysis

Course Code: Math 2201

Submission deadline: 3 Weeks

1.	Show that $\int_1^2 \int_z^2 \int_0^{\frac{x}{\sqrt{3}}} \frac{x}{x^2+y^2} dy dx dz = \frac{\pi}{12}$	
2.	Evaluate the iterated integral $\int_0^2 \int_{-y}^{2y} x e^{y^3} dx dy$	
3.	Using double integral to find the area enclosed by the equations $-x - 2y = 2$, $x - y = 1$ and $y = 0$.	
4.	Evaluate the iterated integral $\int_0^1 \int_0^1 \frac{xy}{\sqrt{x^2+y^2+1}} dx dy$	
5.	Find the volume of the solid within the cylinder $x^2 + y^2 = 16$. and between the planes $z = 0$ and $x + z = 7$.	