General Stuff

- Office Hours

    T: 12:30 - 1:30, Th: 10 - 11

- Quiz Thursday 2/11

    1 problem

    15 minutes to take exam

    5 minutes to upload to gradescope

    11:15 - 11:45 questions before quiz

    11:45 - 12:00 quiz

    12:00 - 12:05 uploading

- Lab after quiz from 12:20 - 1:10

1. Consider the function $f(x,y) = (x^2+y^2, \cos(xy), e^{x+y})$. (a) Find the domain and codomain of f. What size matrix is the derivative? (b) Find the total derivative $Df(x,y)$.

2. Find the equation of the tangent plane to the equation $z = x^2 + y^2 + 3x$ at $(x, y) = (1, 2)$.

3. Determine whether the function $f(x, y) = \frac{x}{y} + \frac{y}{x}$ has continuous partials or not.

4. Find the total derivative of the function $p(t) = (t, t^2, t^3)$. Does this function have a tangent plane at $(1, 1, 1)$?

5. Find the partial derivatives of $f(x, y) = \frac{x^2 y}{x^4 + y^2}$. Are they continuous at the origin?

4. Find the total derivative of the function $p(t) = (t, t^2, t^3)$. Does this function have a tangent plane at $(1, 1, 1)$?

5. Find the partial derivatives of $f(x, y) = \frac{x^2 y}{x^4 + y^2}$. Are they continuous at the origin?