

## Chapter 11

### Partial Derivatives

#### Lecture 1

- Directional Derivative
  - Definition (Last Time)
  - Geometrical Interpretation
  - Physical Interpretation
  - How to Compute?
- Definition of the Gradient vector
- Application of Directional derivative
- Significance of Gradient Vector
  - Level Curves and Gradient Vector
  - Level Surfaces and Gradient Vector
- Tangent plane to Level Surfaces
- Connection with  $z = f(x, y)$
- Local Max/Min (**Next Time**)

