External Links

* **Curvature:** <http://tutorial.math.lamar.edu/Classes/CalcIII/Curvature.aspx>
* **Unit Tangent and the Unit Normal:** <https://ltcconline.net/greenl/courses/202/vectorFunctions/tannorm.htm>
* **Reparameterizing the curve in terms of arc length :** <https://www.youtube.com/watch?v=O3nnibgLCCc>

**General Notes**

* We can use the original arc length formula and apply it in 3D
* It is important to reparamertize the curve with respect to arc length
  + Redefining in different terms
  + Arc length does not change
  + It is something that we can work with across coordinate systems
  + Not limiting us
* **Curvature:** How fast a curve is changing direction at a given point
  + This makes sense because kappa can be written in terms of a function of t, given both the unit tangent vector and the velocity vector
  + r prime(1) := velocity
  + r prime(2) := acceleration (rate of change in velocity; how fast velocity is changing)
  + | r prime(1) | := the speed of the velocity vector (**result is a scalar!!)**