MATLAB HW 3

Due May 1st

This homework will give you an opportunity to get used to the visualization of the concepts that we are working in class.

1. **Graphing Vector fields:**
   By using Matlab graph the following vector fields.
   a) **V**(x,yz) = <x,-y>
   b) **U(**x,y,z) =<y, -x>

   You can use meshgrid and quiver functions of Matlab. If you need help how to use these functions type : help quiver, or help meshgrid in Matlab's command window.

2. **Graphing Curves:**
   By using Matlab, graph the following curves:
   a) A helix located at the origin, has a radius of 10 m and rises at a speed of 20m.
   b) An ellipse located at point (2,1) and has a radius of 2 m on x axis and 3 m on y axis.

   You can use ezplot and ezplot3 functions of Matlab.

3. **Graphing surfaces**
   By using Matlab, graph the following surfaces:
   a) A sphere located at the origin, has a radius of 5 m.
   b) A cylinder located at the origin, has a radius of 5 m and height of 3 m.
   c) A cone located at the origin has a floor radius of 5 m, and height of 5m. The tip of the cone touches the origin.

   You can use ezmesh, and ezsurf functions of Matlab.

(In part 2 and 3, use the specified functions because these functions work with parametric representation (vector equation) of surfaces and curves. Do not use any other symbolic CAS other than Matlab)

Submit a figure for each 7 part above and your code to get those figures…