MAT 175 HOMEWORK #4

DUE OCTOBER 12 (WEDNESDAY)

Note: *Please indicate you are in* **Section C01**. *Numbering of problems is as in the textbook.*

(11.4.**2**) Let $\vec{a} = \langle 3, 3, 1 \rangle$, $\vec{b} = \langle -2, -1, 0 \rangle$, and $\vec{c} = \langle -2, -3, -1 \rangle$. Find each of the following:

(**a**) $\vec{a} \times \vec{b}$.

(**c**) $\vec{a} \cdot (\vec{b} \times \vec{c})$.

(11.4.**10**) Find the area of the triangle with vertices $(1, 2, 3)$, $(3, 1, 5)$, and $(4, 5, 6)$.

(11.4.**12**) Find the equation of the plane through the points $(1, 1, 2)$, $(0, 0, 1)$, and $(-2, -3, 0)$.

(11.4.**16**) Find the equation of the plane through $(0, 0, 2)$ that is parallel to the plane $x + y + z = 1$.

(11.4.**20**) Find the equation of the plane though the origin that is perpendicular to the xy-plane and the plance $3x - 2y + z = 4$.