Rotating by an angle θ around an arbitrary normalized direction (x, y, z):

$$\begin{bmatrix} x^2+\cos\theta(1-x^2) & xy(1-\cos\theta)-z\sin\theta & xz(1-\cos\theta)+y\sin\theta & 0 \\ xy(1-\cos\theta)+z\sin\theta & y^2+\cos\theta(1-y^2) & yz(1-\cos\theta)-x\sin\theta & 0 \\ xz(1-\cos\theta)-y\sin\theta & yz(1-\cos\theta)+x\sin\theta & z^2+\cos\theta(1-z^2) & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Cross product of two vectors (x_1, y_1, z_1) & (x_2, y_2, z_2) is:

$(y_1z_2 - z_1y_2, z_1x_2 - x_1z_2, x_1y_2 - y_1x_2)$

Gives direction orthogonal to both vectors.

Cross product of (1,0,0) & (0, 1, 0):

(0x0 – 0 x1, 0 x 0 – 1 x 0, 1 x 1 – 0 x 0) = (0, 0, 1)