

### Sample Calculations for lab 05

Showing complete details with units, do the following calculations.

A wire carries a current  $I=0.5$  A in the  $+x$  direction and is 0.1 m long. What is the required vector magnetic field in order to produce a force on this wire of  $\vec{F}=1N\hat{y}$  ?

A wire carries  $\vec{I}=0.3\hat{x}$  A . An external magnetic field is given by  $\vec{B}=0.3\hat{x}+0.7\hat{y}$  T . What is the vector force on this wire?