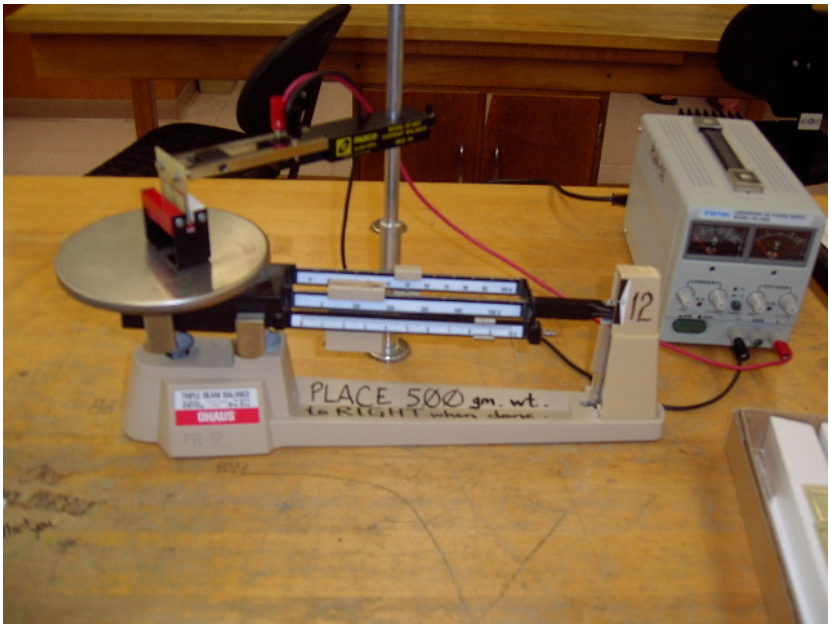
LAB 7 – MAGNETIC FORCE ON CURRENT ELEMENTS

OBJECTIVE – To measure the magnetic force on a current element to:

1. Calculate the magnitude of the magnetic field **B** of a magnetic assembly.
2. Calculate the weight of the magnetic assembly.

EQUIPMENT:

1. rod + clamp
2. magnetic assembly box
3. power supply
4. triple-beam balance



CURRENT LOOP (Number)	LENGTH (**1**) (cm)
SF 40	1.2
SF 37	2.2
SF 39	3.2
SF 38	4.2
SF 41	6.4
SF 42	8.4

THEORY – see lecture notes

PROCEDURE:

1. Using 2 different current loops (SF-41, SF-42) collect the following data:

L	I(A)	Balance reading (g)	n (N)	IL
	1			
	2			
	3			
	4			

2. Make a graph using EXCEL of n vs. IL and calculate “W” and “B” for each loop and compare with expected values.