

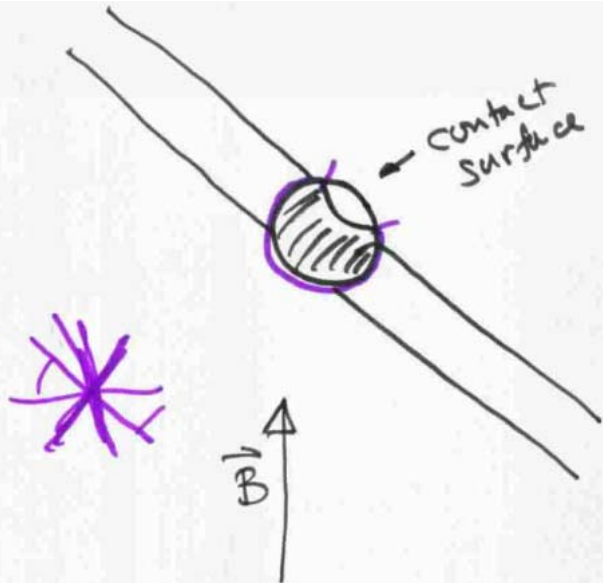
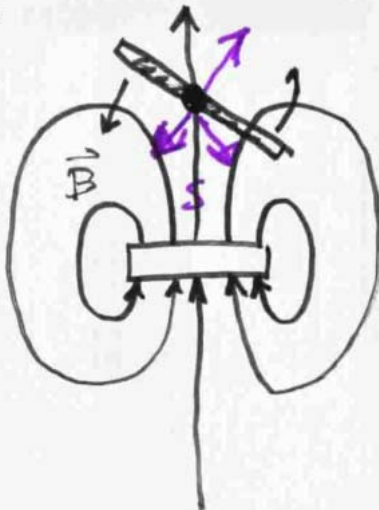
Fields and Waves I (FWI) and Electronic Instrumentation (EI) Schedules – Summer 2010
Version 2: 6 June 2010 (There will be updates)

Monday	Tuesday	Wednesday	Thursday	Friday
FWI: 0.1,1.1 Pre-Project EI: Ex 1 Pre-Project (5-24)	FWI: 1.1,2.4 EI: Ex 1	FWI: 1.2,1.3 EI: Ex 1	FWI: 1.3, 1.4 EI: Ex 2	FWI: 1.6 Proj 1 EI: Ex 2
(5-31) Holiday	FWI: Proj 1 EI: Ex 3	FWI: 2.1, 2.2 HW1 Due EI: Ex 3	FWI: 2.3 EI: Ex 4	FWI: Quiz 1 EI: Quiz 1
FWI: 3.1, 3.2 EI: Ex 4 (6/7)	FWI: 3.2, 3.3 Q1 HW Due EI: Ex 5	FWI: 3.4 EI: Ex 5	FWI: 3.5, 3.6 EI: Proj 1	FWI: 3.6 EI: Proj 1
FWI: 4.1,4.2 HW2 Due EI: Ex 6 (6/14)	FWI: 4.3 4.4 EI: Ex 6	FWI: 4.4, 4.5 EI: Ex 6,7	FWI: 4.6, 4.7 EI: Ex 7	FWI: 4.7, 4.8 HW3 Due EI: Ex 7
FWI: Quiz 2 EI: Quiz 2 (6/21)	FWI: 5.1, 5.2 EI: Ex 7,8	FWI: 5.2, 5.3 EI: Ex 8	FWI: 5.4 EI: Ex 8	FWI: 5.5, 5.6 EI: Ex 8
FWI: Proj 2 HW4 Due EI: Proj 2 (6/28)	FWI: Proj 2 EI: Proj 2	FWI: Catch Up & Clean Up EI: Catch Up & Clean up	FWI: Review EI: Review	FWI: Final Ex EI: Quiz 3

There are 29 total class days. On 3 days there is a major quiz or final exam. One day is set aside for review. On the other 25 days, there is a short quiz that must be completed during class or handed in during the first 10 minutes of the next class. Fields and Waves I HW assignments are due as indicated. For EI, each experiment report is due on the last day of the following scheduled experiment or project. FWI students should keep a notebook for the work assigned in the daily lessons. These notebooks will be looked over from time-to-time by either the instructor or a TA.

Note that Project 1 for EI is the Cantilever Beam (Project 2 during spring and fall terms). Project 2 for FWI and for EI is on the same topic – the Beakman’s Motor. Please read over the write up for your class because the requirements are different. You are to work in groups of 2. Each group will submit one report, but each student should build a motor. One motor in each group must be built exactly to the specifications of the project. That is, you must use the paper clips, rubber band, etc. just as given. However, you are free to design your second and/or third motor any way you wish. The only requirement is that you must use a 1.5 volt battery for your power source. You can change magnets, commutator designs, ...anything you wish except for the battery. Some additional notes are found on the next page.

Bealeman's Motor

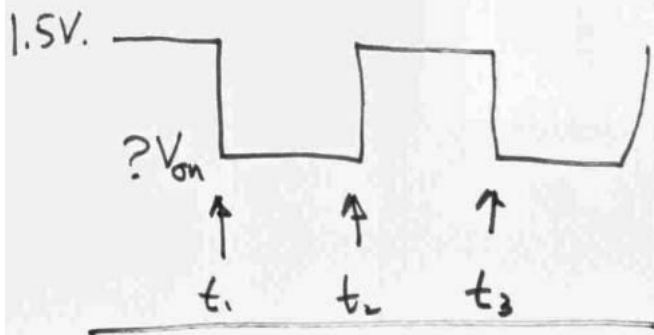


Balance

Fully Characterize
Duty Cycle.

Measure contact range

- Ohmmeter
- Voltage
- ?



Try to measure back EMF
(disconnect coil from battery)