

Biophysics Laboratory • BBMB 334

- Instructor:* Doug Juers • 244 Science • juersdh@whitman.edu • 527-5229 • <http://www.whitman.edu/~juersdh/>
- Office Hours:* MT 11-12; W 1:00-4:00. See also my schedule on my website. Other good times are during Biophysics Labs (Mon & Tues)
- Class Meetings:* Sci 317 M or T at 1 pm. Usually you will finish by 4 pm.
- Web Site:* All materials will be posted on CLEO (<http://cleo.whitman.edu/>).

Purpose.

In this lab you will:

1. Use experiments to explore and test biophysical theories.
2. Learn quantitative techniques in data analysis including error propagation and curve fitting.
3. Improve proficiency in general wet-lab techniques.
4. Improve laboratory writing skills.

Course structure:

All experiments and exercises will include a written description you should read before coming to lab. These will give a general outline of what is to be accomplished, but the details of the experimental procedure will be developed by you. Experiments will be done in lab groups of 2-3. Class periods will sometimes include a discussion at the beginning of class to address particulars of the experiment(s) being conducted that day.

Requirements:

1. Attend every lab session. Missing lab is permissible if you are on an outing sanctioned by the college, or on an interview for grad/med school and you tell me before you leave. We will then make arrangements to make up the lab. If you miss lab under circumstances other than these, you will not be able to make up the lab.
2. Bring eye protection. Wear long pants and closed-toe shoes.
3. Notebook. Each person must keep a notebook to keep notes and record data and observations. These will be turned in with Labs 2,3 & 4.
4. Lab ticket. Each lab will have a small prelab assignment associated with it. This must be completed for you to get into lab for that day.
5. Assessment:
 - a. Lab Reports (70%) – Reports for Labs 1 & 2 are short summaries (1-2 pages). The reports for Lab 3 & 4 are ~5 pages each that should be written like a short scientific review paper.
 - i. Lab 1: Error Propagation: Questions posed in lab handout – to be handed in in lab.
 - ii. Lab 2: Brownian Motion: 1-2 pg summary, spreadsheet and movies.
 - iii. Lab 3: Protein Structure & Stability: Structure

iv. Lab 4: Protein Structure & Stability: Stability

Reports and notebooks for Labs 2-4 are due in lab the week after the laboratory is completed.

- b. Lab notebook (20%)
- c. Experimental Technique (10%). This will be based mostly on individual preparedness and performance during the laboratory period.

Schedule			
Week	Dates	Lab (Mon)	Lab (Tues)
1	Jan 14-15	Lab 1	Lab 1
2	Jan 21-22	MLK	No Lab
3	Jan 28-29	Lab 2	Lab 2
4	Feb 4-5	Lab 2	Lab 2
5	Feb 11-12	Lab 2	Lab 2
6	Feb 19-20	Presidents' Day	Lab 3
7	Feb 25-26	Lab 3	Lab 3
8	Mar 4-5	Lab 3	Lab 3
9	Mar 25-26	Lab 3	Lab 3
10	Apr 1-2	Lab 3	Lab 4
11	Apr 8-9	Lab 4	UG Conf
12	Apr 15-16	Lab 4	Lab 4
13	Apr 22-23	Lab 4	Lab 4
14	Apr 29-30	Lab 4	Lab 4
15	May 6-7	Check out	Check out