Experimental Biology Laboratory
BSC 3402L
Light activation of a photosynthetic enzyme

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Lectures (BIO 307) and workshops (BIO 307 or 314) given on Tuesdays and Thursdays (2-3:15 pm), as indicated on the schedule, are **all mandatory** for **all** students. The bold-face type (class number) is an additional reminder to arrive prepared at 2 pm. Drop this course if you do not expect to attend every lecture and workshop and to complete work strictly on schedule. Tuesdays (8 am to 8 pm) and Thursdays (8 am to 4:30 pm) are also the designated days for conduct of the individual experiments as indicated on the schedule. To facilitate your work, individual schedules will be established for lab time (BIO 314) and access to equipment, as indicated by an asterisk (*).

Office hours are **by appointment** on Tuesdays and Thursdays during lab hours.

The teaching assistants have the responsibilities as delineated on the schedule. In addition, KA, assisted by GF, will coordinate supplies and equipment.

Class	Date	Day	Scheduled Activity
1	05.07	T	Course Orientation (WHO) Scientific Background—Photosynthesis (WHO)
2	05.09	R	Scientific Background (cont'd) (WHO)
Extra	05.13	M	Review Session, 5-7 pm, BIO 307 (WHO)

3	05.14	T	**QUIZ 1[1]: scientific background** (10 % of course grade) Chemistry Refresher—solutions, dilutions (WHO) How to prepare a buffer (WHO)
4	05.16	R	**QUIZ 2[2]: buffer calculation** (3 % of course grade) Principles of Spectrophotometry (WHO) Principles of Assay of PGal dH_2 (WHO) Calculations of enzyme activity (WHO)
5	05.21	T	First day in lab How to Keep a Lab Notebook (PL) How to Use Pipettes and other Equipment (PL) Solution Preparation by students (PL) (PL, 2-4; GP, 4-8)
6	05.23	R	**QUIZ 3[3]: calculation of demonstration results, assay principles, and spectrophotometry** (3 % of course grade) Demonstration: assay of PGal dH_2 (GF) (GF, 2:30-4:30)
7	05.28	T	**QUIZ 4[4]: details of validation-experiment set-up** (4 % of course grade) [N.B.: May 29 is the last day to drop without a grade.] Validation experiment by students* (GF, 8-11; GP, 11-8)

A main purpose of the validation experiments is to ensure that each student has the requisite skills to embark on an independent project. Follow the directions under "Assay Validation."

8	05.30	R	Validation experiment by students* (PL, 8-4:30)

[1]composed and graded by KA.
[2]composed and graded by GF.
[3]composed and graded by GP.
[4]composed and graded by PL.

9	06.04	T	**Draft proposals due** must be submitted in writing[5], and students will be called at random to present proposal to class; class will critique. Written portion will be 5% of course grade; presentations and critique will be considered in the discretionary portion of the course grade [altogether, 10% of course grade].) **Draft research schedule due[6]** **Required consultation** (to discuss proposal and scheduling, KA)
It is important to discuss your draft with TA so your final version will be improved.			
10	06.06	R	**Required consultations**, (by appointment,KA) Draft proposals returned.
11	06.11	T	**Final research proposal due[7]** (10% of course grade) Experimental Phase* (GF, 8-11; GP, 11-8)
12	06.13	R	Experimental Phase* (PL, 8-4:30)
13	06.18	T	Experimental Phase* (GF, 8-11; GP, 11-8)
14	06.20	R	Experimental Phase* (PL, 8-4:30)
15	06.25	T	Experimental Phase * (GF, 8-11; GP, 11-8)
16	06.27	R	Experimental Phase * (PL, 8-4:30)
17	07.02	T	Experimental Phase* (GF, 8-11; GP, 11-8)
18	07.09	T	Experimental Phase (TA)* (GF, 8-11; GP, 11-8)
19	07.11	R	Experimental Phase* (PL, 8-4:30)

[5]submit to KA, who will give suggestions.
[6]One copy of your draft research schedule should be in your draft research proposal. This schedule will be examined for completeness and feasibility. A second copy should be submitted to GF, who will examine all of them together to ensure that a relatively uncrowded lab is available to you when you have requested it.
[7]submit to KA, who will grade.

20	07.16	T	Experimental Phase (TA)* (GF, 8-11; GP, 11-8)
21	07.18	R	How to Write a Scientific Report (WHO) Experimental Phase* (PL, 8-2, 2:45-4:30)
Extra	07.22	M	Review Session, 5-7 pm, BIO 307 (WHO)
22	07.23	T	**Quiz 5: comprehensive exam** (15 % of course grade) Experimental Phase* Consultations by appointment (WHO)* (GF, 8-11; GP, 11-2)
23 *It is important to discuss your draft with TA so your final version will be improved.*	07.25	R	**Draft Final Report Due**[8] (5 % of course grade) **Required Consultations** (by appointment,GP or PL) **Lab Notebook Due**[9] (15% of course grade—throughout the semester, notebooks will be examined without notice. Be sure to always bring it with you.) Draft final reports returned.
24	07.30	T	**Required Consultations**, contd. (by appointment, GP or PL)
25	08.01	R	**Final Report Due**[10] (20% of course grade)

Grades

Assuming satisfactory participation, course grades will be calculated on the basis of the percentages listed in the schedule, namely: Quiz 1, 10; Quiz 2, 3; Quiz 3 , 3; Quiz 4, 4; Draft Proposal, 5; Final Proposal, 10; Final Quiz, 15; Draft Report, 5;, Final Report, 20; Lab Notebook, 15; Discretionary, 10. On this basis, the following scale will be used: ≥ 93, A; ≥ 90, A-; ≥ 87, B+ and so forth.

Unsatisfactory participation will result in a failing grade regardless of calculated average. Examples of unsatisfactory participation includes excessive absences, failure to submit reports in a good-faith manner, and lack of preparation.

[8]submit to GP, will be graded separately by GP and PL
[9]submit to GF, who will grade.
[10]submit to PL, will be graded separately by PL and GP and verified by WHO.