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<tr>
<td>Introduction</td>
<td>Aug 21</td>
<td>Genomic DNA isolation and PCR</td>
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<td>Lab 1</td>
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<td>DNA sequence analysis</td>
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<td>Lab 2</td>
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<td>Lab 3</td>
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The course focuses on molecular techniques commonly used in plant biology research. It consists of both guided exercises and inquiry-based investigation. During the guided exercises, you are expected to actively participate in various lab activities, including lab preparation, lab exercise, and discussion. You should prepare a lab report for each of the lab exercise. The lab report should include the following sections: Introduction, Materials and Methods, Results, Discussion. The report should explain 1) what is the purpose of the lab, 2) how the experiment is done, 4) what are the expected outcomes, 4) do the results match your prediction, 5) discuss unexpected results, any improvement etc.

**Inquiry-based investigations:** you will propose a small project under the instructor’s guidance. You need to write a one-page proposal to state: 1) What hypothesis do you plan to test; 2) Why it is important; 3) How will you design the experiments; 4) What are the expected outcomes. During each week of the inquiry-based investigation, you need to briefly report the progress in your investigation, and discuss the potential improvement and modifications to the proposal. I strongly encourage you to collaborate with each other. You will be evaluated based on both independent performance and collaboration skill. By the end of the semester, you will turn in a report for your project. The report should include the proposed research, experimental design, results, and discussion. On the last day of the class, you should prepare a 15-min presentation to talk about your project in class.

**Grading policy:**
Students are graded based on their performance in discussions, lab reports, independent study, final presentation, and collaborative efforts.

- Lab reports: 100 points each (total 800 points)
- In class discussion: 100 points
- Independent study: 400 points
- Final presentation: 100 points
- Collaboration: 100 points

The grading scale will be as follows:
- A ≥ 90%
- B ≥ 80%
- C ≥ 70%
- D ≥ 60%
- F < 60%