**Course Outline**

Fall (Intersession)-2023

1 Credit Hour Course

**Faculty information**

Instructor: Tasnia Hossain (THn)- Lecturer,

Department of Biochemistry and Microbiology,

School of Health and Life Sciences

**Total Marks: 100 (seven experiments)**

**Course Description**

The course has been designed to introduce the students with basic biology experiments. Students will investigate topics such as microscopy, detection of protein and reducing sugars, blood group typing and DNA extraction. Students will learn how to correctly and safely conduct these lab experiments. Through the class lectures, they will receive the theoretical foundation for understanding the principle and procedures of the experiments.

**Learning Outcomes**

By the end of this course, students will be able to:

* Carry out practical laboratory experiments
* Perform fundamental microscopy techniques
* Interpret and analyze the outcomes of these experiments
* Explain the theory behind these experiments

**Course Plan: (Subject to change)**

|  |  |
| --- | --- |
| **Week** | **Activity** |
| Week-1 | Exp-1, 2, 3 & 4 (Lecture) |
| Week-2 | Exp-1, 2, 3 & 4 (Practical) |
| Week-3 | Exp-5 & 6 (Lecture) |
| Week-4 | Exp-5 & 6 (Practical) |
| Week-5 | Exp-7 (Lecture followed by lab experiment) |
| Week-6 | Final Exam (Quiz and Written exam) |

**Evaluation Criteria: (Subject to change)**

|  |  |  |
| --- | --- | --- |
| **Item #** | **Assessment items** | **Marks %** |
| 1 | Attendance | 10 |
| 2 | Lab Performances (Lab coats, cleanliness, group performances) | 15 |
| 3 | Lab Report | 25 |
| 4 | Quiz | 20 |
| **5** | Lab assessment (Writing interpretations on answer book) | 30 |
|  | **Total** | **100** |

**Name of the Experiments**

1. Microscopic observation of Prokaryotic cells.
2. Microscopic observation of Eukaryotic cells.
3. Microscopic observation of human blood cells.
4. Blood grouping.
5. Benedict test for determination of reducing sugars.
6. Biuret test for determination of protein in milk.
7. Extraction of plant genomic DNA.

**NB:** Detail protocols of the experiments will be provided in the class.

**Class Rules:**

1. Students are expected to submit the reports within the assigned time; otherwise, they will be penalized.
2. **Students are expected to come with tied hairs, lab coat and closed shoes.**
3. Any student found copying another person’s work, cheating on an exam or quiz will either be given zero or **“F”** in the course

**Make-Up Lab Policy:**

IF you miss a lab, you MUST:

1. Contact your faculty IMMEDIATELY (or ASAP) via email.
2. Make up the lab and complete the lab report associated with the missed lab.
3. DO NOT wait until the day following the lab that you miss and do not wait until the end of the week. Your lab instructor may not be able to help you at the last minute.
4. If the faculty approves, they will provide the student with a written permission. The student is to present the written permission to the Lab Instructor.
5. If you have a problem or situation that affects your attendance, always speak with your faculty.

**Disclaimer:**

The faculty holds the right to make necessary changes to the syllabus and the grading policies outlined here to best accommodate the interest of the class.

\_\_\_\_Good Luck\_\_\_\_