



# **NORTH SOUTH UNIVERSITY**

**Department of Biochemistry & Microbiology**

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## **Course outline**

### **BIO 201 L: Introduction to Biochemistry & Biotechnology Lab**

Total Credits: 01

Course instructor: Abhinandan Chowdhury (ACh)  
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#### **1. DISCLAIMER**

The instructor holds the right to make necessary changes to the course content or timeline and the grading policies outlined here to best accommodate the interest of the class.

#### **2. RATIONALE**

The Introduction to Biochemistry and Biotechnology Laboratory course is designed to give students sufficient exposure to laboratory conditions to carry out experiments related with elementary biochemistry independently after graduation.

#### **3. OBJECTIVES**

The course aims to give the students an understanding of both the logic and planning to carry out experiments of biochemistry with emphasis on using that knowledge to propose novel Biochemistry & Biotechnological applications.

#### **4. LEARNING OUTCOMES**

By attending classes regularly and participating in the assessment exams, students of this course should be able to:

- (i) Use micropipettes properly;
- (ii) Use a spectrophotometer;
- (iii) Estimate glucose concentration in unknown sample using excel and graph paper;  
Evaluate action of yeast enzyme and factors affecting enzyme qualitatively
- (iv) Know the tools used in Biotechnology Laboratory.

#### **5. GRADING POLICY**

NSU grading policy will be followed.

## 6. COURSE CONTENT

### 6.1 COURSE DESCRIPTION

1. Introduction to micropipette ;
2. Use of spectrophotometer;
3. Estimation of glucose concentration in unknown sample using excel and graph paper;
4. Evaluation of action of yeast enzyme and factors affecting enzyme qualitatively
5. Introduction to tools used in Biotechnology Laboratory & Virtual Lab.

### 6.2 TIMELINE

Class	Experiment	Duration
1	Lecture on the "Use of micropipettes to measure volume accurately". Demonstration of the apparatus to be used to the students. Practical on the "Use of micropipettes to measure volume accurately".	3 Hours
2	Lecture on the "Estimation of glucose level in a sample". Demonstration of the apparatus to be used to the students. Practical on "Estimation of glucose level in a sample".	3 Hours
3	Lecture of action of yeast enzyme and factors affecting enzyme qualitatively  Evaluation of action of yeast enzyme and factors affecting enzyme qualitatively	3 Hours
4	Introduction to tools used in Biotechnology Laboratory & Virtual Lab of Biotechnology Techniques. Lab Tour : PCR, Gel Run, NGRI	3 Hours
<b>Assessment Exam</b>		60 min

## 7. EVALUATION STRATEGIES

Topic	Marks	Remarks
<b>Lab reports</b>	20%	1-Lab report on EXP 2
<b>Scientific Essay</b>	10%	On Biotechnology Techniques
<b>Class Attendance</b>	20%	100% attendance is desired. + Evaluation of class attire and carrying out experiments with minimum mistakes.
<b>Assessment Exam</b>	50%	20%- Written exam for 10 % - 20 MCQs on the experiments. Time : 60 Minutes