**II.2.10 INTRODUCTION TO ENZYMOLOGY**

**I. Course description:**

1. **Credit points**: 4 ECTS
2. **Time commitment:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Items | Lecture | Tutorial/  Exercise | Practice/  Assignment | Lab-work | **Total** |
| No. of hours | 30 |  | 4 | 6 | **40** |

1. **Prerequisites**:

* Basic course in Biochemistry (Protein composition etc.)
* Basic course in chemistry (what is a rate equation)

1. **Recommended background knowledge**: Protein structure. Thermodynamics equations.
2. **Subject description:**

Understand mathematical and chemical description of enzyme kinetics and mechanisms. Understand protein engineering methods and outcomes in biotechnology.

1. **Objectives & Outcome:**

* Capacity to resolve real problems occurring when manipulating enzymes. Knowledge on protein engineering methods applied to biocatalysis.

1. **Assessment/ Evaluation:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Component | Attendance | Exercises | Assignments | Reports | Midterm | Final |
| Percentage % | 5 | 0 | 10 | 20 | 35 | 30 |

1. **Prescribed Textbook(s):** N/A

**II. Course content & schedule:**

[1] Protein structure, folds

[2] Basis of enzymology and rate equations

[3] Ligand Binding

[4] Mechanisms of enzyme inhibition

[5] Multiple substrates

[6] Protein engineering

[7] Biocatalysis

**III. Reference Literature:**

N/A