



## **BIO-INFORMATIQUE, BIO-STATISTIQUE ET MODÉLISATION**

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**Lecturers:** Emmanuelle LAURENCEAU, Christelle YEROMONAHOS

| Lecturers : 0.0 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 15 | Project : 0.0 | Language : FR

### **Objectives**

Through this course, basic statistical tools as well as modeling concepts and techniques will be discussed to allow engineering students to analyze and model data in the life sciences. From concrete examples, analysis and modeling strategies will be studied, and the development of a complete model will be worked out.

**Keywords :**

### **Programme**

BE 1 (4h): Modeling of living tissue  
BE 2 (4h): Cell membrane modeling in molecular dynamics  
BE 3 (4h): Epidemiology and vaccination  
BE 4 (3h): Statistical tools for life sciences

### **Learning outcomes**

- Understanding modeling
- To be able to simulate and analyze a model
- Recognize the application contexts of statistical methods and implement them on datasets
- Understand the principle of molecular dynamics simulations

### **Independent study**

**Objectifs :** This activity is not concerned with framed autonomy activities outside personal work.

**Méthodes :** This activity is not concerned with framed autonomy activities outside personal work.

### **Core texts**

### **Assessment**

1 written report for each BE, each counting for 25% of the final mark