

# **Bioinformatics** **2025-2026**

## **Part I : Foundations**

| <b>Date</b>                   | <b>Time</b> | <b>Lecturer</b>             | <b>Title</b>                                                                                                                                                           |
|-------------------------------|-------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Friday, Oct 31 <sup>st</sup>  | 1200-1400   | Nicholas M. Glykos          | A bird's-eye view of bioinformatics: databases, algorithms and programs.                                                                                               |
| Saturday, Nov 1 <sup>st</sup> | 1200-1400   | Nicholas M. Glykos          | Sequence alignments : bioinformatics' sine qua non.<br>Part I : Scoring matrices, rigorous pairwise sequence alignment algorithms, multiple sequence alignment methods |
| Sunday, Nov 2 <sup>nd</sup>   | 1730-1930   | Nicholas M. Glykos          | Sequence alignments : bioinformatics' sine qua non.<br>Part II : BLAST and friends, database searches                                                                  |
| Thursday, Nov 6 <sup>th</sup> | 1730-1930   | Aristotelis C. Papageorgiou | Phylogenetic analysis and clustering : a very short introduction                                                                                                       |

## **Part II : Methods, algorithms, databases and applications**

| <b>Date</b>                    | <b>Time</b> | <b>Lecturer</b>         | <b>Title</b>                                                                         |
|--------------------------------|-------------|-------------------------|--------------------------------------------------------------------------------------|
| Saturday, Nov 8 <sup>th</sup>  | 1500-1700   | Petros Kolovos          | Bioinformatics and state-of-the-art scientific approaches                            |
| Sunday, Nov 9 <sup>th</sup>    | 1500-1700   | Katerina Chlichlia      | Application of bioinformatics to predict MHC ligands and antigenic T-cell epitopes.  |
| Friday, Nov 28 <sup>th</sup>   | 1730-1930   | Nicholas M. Glykos      | Machine learning : introduction to hidden Markov models & artificial neural networks |
| Saturday, Nov 29 <sup>th</sup> | 1730-1930   | Antonis Giannakakis     | The evolution of gene expression                                                     |
| Sunday, Nov 30 <sup>st</sup>   | 1730-1930   | Nicholas M. Glykos      | Protein folding problem : physics-based atomic resolution approaches.                |
| Saturday, Dec 13 <sup>th</sup> | 1500-1700   | Grigoris Amoutzias      | Bioinformatics applications to proteomics and phosphoproteomics.                     |
| Sunday, Dec 14 <sup>th</sup>   | 1500-1700   | Georgios Ch. Sirakoulis | Cellular automata models in Biology                                                  |