



16 HOURS COURSE CONTENT

BIOINFORMATICS





EDU FABRICA

COURSE PROGRAM

- Introduction of bioinformatics
- Major Bioinformatics Databases
- Biological Sequence Analysis- Sequence Similarity, Homology and Alignment:
- Pairwise sequence Alignment
- Global & Local Alignment algorithms
- Basic concept of Scoring matrices (PAM & BLOSSUM)
- Dynamic programming Algorithms
- Dot Plots for comparing sequences
- BLAST and FASTA
- Multiple sequence alignment:
- Introduction to Multiple sequence alignment and progressive alignment algorithm
- MSA based software tools ClustalW.
- Applications of Multiple Sequence alignment.
- Phylogenetic analysis: Definition and description of phylogenetic trees
- Methods of phylogenetic analysis
- MEGA software
- Proteomics
- Tools and techniques in proteomics
- Protein Structure Visualization: Schematic Representations of proteins using Chimera, PDB
- Genome analysis
- Techniques- Sequencing, phage display techniques



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