Basic Bioinformatics

1. Course Description

This class will provide an essential background on bioinformatics, basic techniques for database and/or web-tool analysis, using PubMed, CLUSTALW, BLAST, PSORT, SOSUI, KEGG, and GO, etc.
Covered topics include databases of life science journals, sequence, structure and function databases of DNA and protein molecules, advanced sequence and structure alignment methods, database of functions and utilities of the biological system, and Gene ontology.

2. Course Objectives

This is a hands-on, project-oriented class.
The aims of this course are to gain essential background on bioinformatics and basic techniques to identify, obtain, and analyze research information on molecular biology by using Internet tools.

3. Grading Policy

Progress report and Take-home Examination(50%), Practical Test(50%).

4. Textbook and Reference

Textbook
A Handout and resources will be provided throughout the course using LMS.
Reference
N/A

5. Requirements(Assignments)

To Be Announced.

6. Note

N/A

7. Schedule

[1]   Introduction
[2]   CiNii, IPDL
[3]   PubMed
[4]   NCBI,DDBJ
[5]   CLUSTALW,TreeView
[6]   BLAST
[7]   BLASTN
[8]   BLASTP
[9]   BLASTX,TBLASTN
[10]   PSI-BLAST,PHI-BLAST
[11]   PSORT,SOSUI,TMHMM
[12]   GO,GEO,KEGG
[13]   Gene Ontology
[14]   Entrez, GenomeNET, etc.
[15]   Final Exam and its review in practice