

**Biology Department of Faculty of
Mathematics and Natural Sciences,
Univ. of North Sumatra**

**Introduction of The Lecture of
Molecular Genetics**

By Prof.Dr. Syafruddin Ilyas, M.Biomed.



Lecturer of Molecular Genetics



Prof. Dr. Syafruddin Ilyas, M. Biomed.
Molecular Biologist

syaf_ilyas2004@yahoo.com



Learning aids for the student

- To help the student learn molecular genetics , as well as enjoy the material, we have made very effort to provide pedagogical aids.
- These aids are designed to help organize the material and make it understandable to student
- After the student are finished to study the molecular genetics lecture, they can understand the basic concept of molecular genetics , protein synthesis & regulation, genome & protein analysis, and bioinformatics

Main Topics

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| Lecture1 | Chromosome, DNA & Gene |
| Lecture2 | Gene Regulation |
| Lecture3 | Protein Synthesis (gene expression) |
| Lecture4 | Human Genome Project & Bioinformatics |
| Lecture5 | Basic methods for molecular genetics & Electrophoresis |
| Lecture6 | PCR, RT-PCR & Real-Time PCR |
| Lecture7 | Gene Mutation & RFLP analysis |
| Lecture8 | Mid Term Examination |

Main Topics

Lecture9	DNA Sequencing
Lecture10	Gene Profiling & DNA Microarray
Lecture11	Basic Structure of Protein
Lecture12	Basics of Protein Analysis & Proteomics
Lecture13	Basic Techniques for Protein Analysis
Lecture14	Antibody engineering
Lecture15	Immunohistochemistry
Lecture16	Final Term Examination

Lecture Materials

- Power Point for Main Lectures
- Lecture Note
- Video Streaming
- Animation Movie

Evaluation

- 10% = Quiz
- 20% = homework
- 30% = Mid Term examination
- 40% = Final Term examination

Main Reference

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- Prophet EB, B.Mills, JB. Arrington, and LH.Sobin. 1994. Laboratory Methods in Histotechnology. Washington DC.
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- Watson, JD., J. Tooze, DT. Kurtz. 1988. Recombinant DNA, Alih bahasa, Gunarso, W., Penerbit Erlangga. Jakarta.
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