

Engineering of Genetic Information

2 units (selection)

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Target To obtain information on recent genetic studies

Outline 1) Lectures on Advanced research on analysis of genetic information of Drosophila, mouse, and human. 2) Analysis of structure and function of the genes based on the genetic information: gene expression, loss of function and gain of function 3) Genetic engineering to create new biological functions. 4) Application of the genetic engineering to improve biological functions. 5) Advanced research on developmental and regeneration biology, focusing on limb development and regeneration. 6) Application of the developmental and regeneration biology to improve biological functions. 7) Recent topics of genetic engineering. 8) Recent topics of developmental biology and its application.

Style Portfolio

Keyword *genome science, molecular biology, genetic engineering*

Relational Lecture “Cell Signaling System”(0.5), “Biofunctional Engineering”(0.5), “Technology of Enzyme Functions”(0.5)

Requirement N/A

Notice N/A

Goal To understand recent information on genetics

Schedule

1. Recent advance in genetics, insects
2. Recent advance in genetics, invertebrates
3. Recent advance in genetic engineering, invertebrates
4. Recent advance in genetics, chicken
5. Recent advance in genetic engineering, chicken
6. Recent advance in genetics, mouse
7. Recent advance in genetic engineering, mouse
8. report for evaluation
9. Recent advance in genetics, human
10. Recent advance in genetic engineering, human
11. Recent advance in genetics, plants
12. Recent advance in genetic engineering, plants
13. Recent advance in RNA engineering
14. Recent advance in detection of gene expression

15. Recent advance in recent topics 1

16. Recent advance in recent topics 2

17. Final report

Evaluation Criteria Evaluate two reports (50% each)

Textbook N/A

Reference Handouts

Contents <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216553>

Student Able to be taken by student of other department

Contact

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