

<b>Course title</b> <English>	ゲノム科学と医療 Genome Science and Medicine		<b>Affiliated department, Job title, Name</b>	Graduate School of Medicine Professor, MATSUDA FUMIHIKO Graduate School of Medicine Associate Professor, TABARA YASUHARU	
<b>Grade allotted</b>	Professional degree students	<b>Number of credits</b>	2	<b>Course offered year/period</b>	2015/Second semester
<b>Day/period</b>	Thu.3	<b>Class style</b>	Lecture	<b>Language</b>	Japanese and English
<b>[Outline and Purpose of the Course]</b>					
The purpose of this course is to understand what kind of impact the development of genomics will have on medical research/treatment in the 21st century. The main aim is to demonstrate what the researchers in the field of genomic science have achieved in the past, and also to recognize what they could achieve in the future as well as to show how the results could be applied to medicine. The course will be composed of small-group lectures and discussions, and the roles played in both the past and in the future by genomics in the era of preventative medicine will be discussed.					
<b>[Course Goals]</b>					
To understand the expansion of genomic science. To comprehend the impact that the scientific achievements will have on society. To acquire the basics of genomic science to be able to appreciate the essential achievements of research.					
<b>[Course Schedule and Contents]</b>					
10/1 Introduction to Genomic Medicine (Tabara Y) 10/8 Molecular biology and its application to medicine (Teranishi Y) 10/15 10/22 Leading-edge technology of genomic medicine: Genome (Higasa K) 10/29 Leading-edge technology of genomic medicine: Omics (Sato T) 11/5 Identification of genetic factors associated with disease: Family-based approach (Koizumi A) 11/12 7th Identification of genetic factors associated with disease: Rare diseases (Gotoh N) 11/19 7th Identification of genetic factors associated with disease: Cancers (Takahashi M) 11/26 7th Identification of genetic factors associated with disease: Multifactorial diseases I (Tabara Y) 12/3 7th Identification of genetic factors associated with disease: Multifactorial diseases II (Miki T) 12/10 Cohort study for common diseases (Tabara Y) 12/17 Genome cohort study (Matsuda F) 1/7 Genome and medical informations (Yamaguchi I) 1/14 Human genome and evolution (Matsuda F) 1/21 Examination					
<b>[Class requirement]</b>					
Completion of Statistical Genetics I and II is strongly recommended					
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## ゲノム科学と医療(2)

### **[Method, Point of view, and Attainment levels of Evaluation]**

Expression his/her opinion during class  
Coursework  
Examination

### **[Textbook]**

Suggested reading: Human Molecular Genetics, 3rd edition, 2010

### **[Reference books, etc.]**

#### **(Reference books)**

Introduced during class

### **[Regarding studies out of class (preparation and review)]**

Lectures using textbooks, powerpoint presentations, and scientific reports.

### **(Others (office hour, etc.))**

We welcome any questions both during and after class.

\*Please visit KULASIS to find out about office hours.