Course	Advanced Social Pharmacy			Teacher	T. Kabashima, H. Nagaoka, M. Yodo, S. Oiso, T. Muro, M. Hayakawa, N. Takai, S. Kamiya, Y. Deguchi, T. Yoshida, M Sohda		
Type of course	Lecture	Credits	2 units	Period	Spring	Compulsory/ Elective	Optional

Aim of Course

The aim of this course is to understand the basic and advanced scientific background of social pharmacy today, and explain such characteristics.

Toward this aim, students are expected to be able to use those knowledges accurately in our lectures. Students will also choose a topic about the most advanced social pharmacy, based on the theme, and explain that topic to the class.

	Attainment target of Course	Evaluation tool/method	Ratio of Evaluation
Interest/Motivation/ Attitude	1: To be able to understand social pharmacy by giving a presentation. 2: To be able to experiment basic term of social pharmacy accurately.	Group discussion Final presentation	10% 20%
Consideration/ Judgement	To be able to do preparations and analyses consistently.	Review questions	10%
Skill/Expression	To be able to prepare the presentation slides for their interest topics.	Assignments Final presentation	10% 10%
Knowledge/ Understanding	To be able to discuss and explain lecture's topics.	Review questions Final presentation	20% 20%
Attendance			Requested to take exam
Total Score			100%

Evaluation criteria and supplementary explanation of evaluation means or methods

Overall grade in this class will be decided based on the following: Group discussion (10%), Review questions (30%), Assignments (10%), and Final presentation (50%).

Overview of course

This course is intended to introduce topics about social pharmacy and related scientific research. In the last class, students will choose the topic of most interest, and will present the latest or related news about selected topic to the other students. The official language of this class is English. Each class will consist of a 90min presentation.

Textbook ・ Reference book

Textbook: none in particular (distribute related papers each time)

Reference book: none in particular

Out of class learning and expectations for students

The students are expected to read the related reference and assigned material carefully. Also follow the latest news and reports released by mass media. Some of them will be used in the class.

#	Topic	Details (Teacher)	Preparation・Review
1	Application of genome information to social pharmacy	Introduction of genome research and its outcome, and discussion about useful application to society. (Dr. Kabashima)	(Preparation) Read references (Review) Review questions
2	Risk of infectious diseases as social problem	Outline and discussion on infectious diseases such as HIV, prion, influenza, and so on. (Dr. Takai)	(Preparation) Read references (Review) Review questions
3	SPECIFICATIONS	Test procedures and acceptance criteria for drug substances and products. (Dr. Nagaoka)	(Preparation) Read references (Review) Review questions
4	Molecular Design in Drug Discovery	In current small molecule drug discovery, the role of molecular design is firmly established. Case studies where computational methods were employed to impact research projects will be discussed. (Dr. Yodo)	(Preparation) Read references (Review) Review questions
5	Pharmacovigilance and big data	Pharmacovigilance is an essential activity to encourage appropriate use of drugs. In this lecture, pharmacovigilance using big data will be reviewed. (Dr. Oiso)	(Preparation) Read references (Review) Review questions
6	Social issues associated with antimicrobial resistance: Importance of proper use of antibiotics	Outline and discussion on antimicrobial resistance and proper use of antibiotics. (Dr. Muro)	(Preparation) Read references (Review) Review questions
7	Clinical trials	Explain the use of trial design and statistical analysis in clinical research. (Dr. Hayakawa)	(Preparation) Read references (Review) Review questions
8	Medical pharmacy	Effect of Patient Education for Diabetic Outpatients by a Hospital Pharmacist: A Retrospective Study. (Dr. Kabashima)	(Preparation) Read references (Review) Review questions
9	Bioavailability evaluation of pharmaceutical preparation	Overview and discussion of the bioavailability of different animals. (Dr. Kamiya)	(Preparation) Read references (Review) Review questions
10	Drug-food interactions	Introduction of current status of health foods including their interactions with drugs. (Dr. Deguchi)	(Preparation) Read references (Review) Review questions
11	Asthma prevention	Introduction of recent studies about asthma prevention. (Dr. Deguchi)	(Preparation) Read references (Review) Review questions
12	Chemical intolerance	Introduction of the background and current status of chemical intolerance represented by sick building syndrome. (Dr. Sohda)	(Preparation) Read references (Review) Review questions
13	Computational investigation for drug discovery #1	Modern computational approaches for understanding biomolecular events and for discovering new drugs rationally will be introduced. (Dr. Yoshida)	(Preparation) Read references (Review) Review questions
14	Computational investigation for drug discovery #2	Drug–receptor interaction between a drug molecule and its target receptor at the electronic and atomic levels in detail will be discussed. (Dr. Yoshida)	(Preparation) Read references (Review) Review questions
15	Group Discussion and Presentation	Group discussion and presentation on interest subject in past lectures. (Dr. Kabashima)	(Preparation) (Review)