

Category (科目区分)	Cluster of Cancer Treatment Specialist Training System		
Course Title (授業科目名)	Cancer genome and cancer biology		
Instructors (担当者名)	Hiroyuki Shibata	Academic Year (配当年次)	All grades
Required Course / Elective Course (必修/選択)	Elective Course	Credits (単位数)	2
Class Format (授業形態)	Web class		
Schedule (開講期間)	2023 April-2023 March		
Class Date/Period (開講曜日・時間)	Web class		
Course Outline/ Course Objectives (授業の概要・到達目標)			
According to the progress in cancer biology, diagnosis of cancer genome analysis has evolutionary impact on cancer treatment. Cancer caregivers in the future should understand the underlying cancer biology. Further, they should make efforts to develop new strategy of cancer treatment by using these knowledges. In these classes, we will give the trainees the knowledges and skills to dissolve the problems in cancer.			
Course Planning (授業計画)			
	Course Outline/ Course Objectives(授業の概要及び到達目標) (Contents of Class) ((授業内容))	Instructor (担当教員名)	Department (講座名) Class Room [実施場所]
1	Cancer Biology 1	Yasufumi Omori	Dept. Molecular Pathology
2	Cancer Biology 2	Yasufumi Omori	Dept. Molecular Pathology
3	Cancer cell growth and metastasis	Yasufumi Omori	Dept. Molecular Pathology
4	Ethical issues in cancer treatment	Yasufumi Omori	Dept. Molecular Pathology
5	cancer stem cells	Yasufumi Omori	Dept. Molecular Pathology
6	hereditary cancer and cancer genome	Hideki Shimodaira	Tohoku Medical and Pharmaceutical University
7	KEAP1-NRF2 system in cancer	Masayuki Yamamoto	Tohoku University
8	Exosome in cancer treatment	Kiyotaka Shiba	Cancer Institute
9	Nursing of research mind	Okio Hino	Juntendo University
10	Macroimaging of cancer r	Yoshio Bando	Dept. Anatomy
11	Liquid biopsy of cancer	Takahiro Ochiya	National Cancer Center
12	Gene alteration and microenvironment of digestive organ cancer	Masanobu Ohshima	Kanazawa University
13	Endoplasmic reticulum transport and cancer	Kota Saito	Dept.Biological Informatics and Experimental Therapeutics
14	epithelial mesenchimal transition of cancer	Masamitsu Tanaka	Dept. Molecular Medicine and Biochemistry
15	Genome Editing	Keiji Kuba	Dept. Biochemistry and Metabolic Science
16	regulatory T cell and cancer	Takashi Maruyama	Dept. Immunology
17	Cancer epidemiology	Kyoko Nomura	Dept. Public Health
18	Carcinogenesis induced by viruses	Teru Kanda	Tohoku Medical and Pharmaceutical University
19	Drug development for unmet medical needs	Yoshiharu Iwabuchi	Tohoku University
20	Carcinogenesis induced by environmental factors	Katsutoshi Murata	Dept. Environmental Health Sciences

Grading Criteria (成績評価の基準と方法)
submission of the report
Contact Information (問い合わせ先(氏名, メールアドレス等))
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Coment (その他特記事項)
Self education by using web classes