

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)	2026 April-2027 February		
Class Date/Period (開講曜日・時間)	On demand		
Course Outline/ Course Objectives (授業の概要・到達目標)			
With advances in cancer biology, diagnostics based on cancer genome analysis are having a revolutionary impact on cancer treatment. Future cancer caregivers must understand the underlying biology of cancer and use this knowledge to develop new cancer treatment strategies. This course will equip students with the knowledge and skills to solve 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 and Tumor Pathology
2	Cancer Biology 2	Yasufumi Omori	Dept. Molecular and Tumor Pathology
3	Cancer cell growth and metastasis	Yasufumi Omori	Dept. Molecular and Tumor Pathology
4	Ethical issues in cancer treatment	Yasufumi Omori	Dept. Molecular and Tumor Pathology
5	cancer stem cells	Yasufumi Omori	Dept. Molecular and Tumor 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. Pharmacology
14	epithelial mesenchymal transition of cancer	Masamitsu Tanaka	Dept. Molecular Medicine and Biochemistry
15	Spatial Transcriptomics and Metabolism in Cancer	Yoshihiro Matsumura, Jianbo An	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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Comment (その他特記事項)			
Self education by using web classes			