

Category (科目区分)	Cluster of Pathology and Pathology System		
Course Title (授業科目名)	Cytopathology / Practice		
Instructors (担当者名)	Masamitsu Tanaka	Academic Year (配当年次)	1
Required Course / Elective Course (必修/選択)	Elective course	Credits (単位数)	1
Class Format (授業形態)	experimental practice		
Schedule (開講期間)	Students will be notified by email after completing the course registration.		
Class Date/Period (開講曜日・時間)	Students will be notified by email after completing the course registration.		
Course Outline/ Course Objectives (授業の概要・到達目標)			
Purpose of class: The purpose of the lesson is to understand the mechanism of morphological change in individual cells.			
Achievement goal of the lesson: The goal is to understand and explain the items that are highly related to the characteristics of cell morphological changes associated with tumors.			
Class outline:			
1,2. To understand the mechanism and morphology of cell death due to apoptosis.			
3,4. To understand the mechanism and morphology of cell death due to necrosis.			
5,6. To understand the mechanism and morphology of cell death due to pyroptosis.			
7,8. To understand the mechanism and cell morphology of epithelial-mesenchymal transition (EMT).			
9,10. To understand changes in cell morphology by EMT-like mechanisms.			
11,12. To understand the molecular changes and cell morphology associated with cell aging.			
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	Cell morphology of apoptosis	Professor Masamitsu Tanaka	Department of Molecular Biochemistry [Seminar Room]
2	Cell morphology of necrosis		
3	Cell morphology of pyroptosis		
4	Cellular morphology of epithelial-mesenchymal transition		
5	EMT-like cell morphology		
6	Morphological changes associated with cell senescence		
Grading Criteria (成績評価の基準と方法)			
30 hours of experimental training in the seminar room + 15 hours of self-study, 45 hours in total is counted as 1 credit, attendance status, the results of the oral and written examinations and the contents of the submitted report will be taken into consideration to evaluate.			
Contact Information (問い合わせ先(氏名, メールアドレス等))			
Name: Masamitsu Tanaka / E-mail: mastanak@med.akita-u.ac.jp			
Comment (その他特記事項)			
Information about the course: If you cannot attend the training due to work, we will adjust the schedule. Textbooks / References: Distribute materials as needed. Alternatively, specify the document. Self-study content during self-study time: It is desirable to carry out preparatory learning according to the goals to be achieved and the content of the lesson.			