

<b>Category</b> (科目区分)	Cluster of Metabolism and Information Systems								
<b>Course Title</b> (授業科目名)	Brain and Neurometabolic Function, Practice								
<b>Instructors</b> (担当者名)	Tsutomu Takahashi	<b>Academic Year</b> (配当年次)	1						
<b>Required Course / Elective Course</b> (必修/選択)	Elective Course	<b>Credits</b> (単位数)	1						
<b>Class Format</b> (授業形態)	Lecture								
<b>Schedule</b> (開講期間)	notification directly by E-mail after the registration.								
<b>Class Date/Period</b> (開講曜日・時間)	notification directly by E-mail after the registration.								
<b>Course Outline/ Course Objectives</b> (授業の概要・到達目標) Course outline To appreciate the molecular mechanisms of neurological function through understanding the molecular pathophysiology of inherited diseases, including metabolic diseases and channelopathies, as well as the neuroprotective mechanisms by controlling neuronal cell apoptosis against ischemia and hypoxia. Course objectives To explain the molecular basis of the neurological malfunctions in inherited diseases.									
<b>Course Planning</b> (授業計画)									
	<b>Course Outline/ Course Objectives</b> (授業の概要及び到達目標) (Contents of Class) (授業内容)	<b>Instructor</b> (担当教員名)	<b>Department</b> (講座名) <b>Class Room</b> [実施場所]						
1	1. Neurological malfunctions in inherited metabolic diseases of glucose, amino acids, and lipids.	Tsutomu Takahashi Manatomo Toyono Tamami Yano	Department of Pediatrics [Pediatric Office]						
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5	2. Channelopathies in hereditary neuronal diseases.			Tsutomu Takahashi Manatomo Toyono Tamami Yano	Department of Pediatrics [Pediatric Office]				
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9	3. Cerebral and systemic circulations in neuronal diseases.					Tsutomu Takahashi Manatomo Toyono Tamami Yano	Department of Pediatrics [Pediatric Office]		
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9	4. Biological protective responses against stress stimuli including ischemia and hypoxia in brain	Tsutomu Takahashi Manatomo Toyono Tamami Yano	Department of Pediatrics [Pediatric Office]						
10									
<b>Grading Criteria</b> (成績評価の基準と方法)									
Grading is evaluated in terms of reports, instructor-directed lectures for 30 hours and self-directed learning for 15 hours.									
<b>Contact Information</b> (問い合わせ先(氏名, メールアドレス等))									
Name: Tsutomu Takahashi / E-mail: tomy@med.akita-u.ac.jp									
<b>Coment</b> (その他特記事項)									
Schedule could flexibly depend on circumstance of the attendee									