Category （科目区分）	Cluster Common Basic Subjects		
Course Title （授業科目名）	Practical training in basic medical skills "Practical measurement of second messenger"		
Instructors （担当者名）	Daisuke YASUDA	Academic Year （配当年次）	1, 2
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）

When a ligand（agonist）binds to the receptor, the intracellular signaling system is activated. The second messenger is a small molecule metabolite or ion that increases or decreases in the cell during this process. Students enrolled in this course will learn how to measure two representative second messengers, cyclic AMP (cAMP) and calcium ion.

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	Quantitative measurement of cyclic AMP（cAMP）	Lecturer Daisuke YASUDA	Department of Immunology 〔Reserch Building for Basic Medicine 2F〕
2			
3			
4			
5			
6	Quantitative measurement of intracellular calcium ion		
7			
8			
9			
10			

Grading Criteria　（成績評価の基準と方法）

Reports, attendance and attitude

Contact Information（問い合わせ先(氏名，メールアドレス等)）

Name: Daisuke YASUDA　　　／ E-mail: dyasuda@gipc.akita-u.ac.jp

Comment　（その他特記事項）

Information about the course: If you are a working graduate student and cannot attend the practical training due to work, we will adjust the schedule.
Textbooks and reference materials: Materials will be distributed as necessary.
Content of study during self-study time: It is desirable to conduct preparatory study according to the objectives and class content.