Category （科目区分）	Cluster of Neuroscience System
Course Title （授業科目名）	Exercise physiology / practice

Instructors （担当者名）	Naohisa Miyakoshi	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）	Lecture
Schedule （開講期間）	Year-round
Class Date/Period （開講曜日・時間）	18:00～21:30, every Monday (details of the schedule are negotiable)

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 function in clinical practice from the basics of exercise physiology.
Achievement goal of the lesson: Understand the basics of exercise physiology, neural networks and neuromodulation including muscle anatomy and physiology, and also include diagnosis and treatment methods for musculoskeletal diseases of the spine and joints due to exercise, including actual surgery.

Class outline:
 1,2. Basics of exercise physiology: It outlines general physiology and outlines the basics of exercise physiology such as changes in respiration and metabolism as well as in nerves and muscles by exercise. (Responsible: Hongo)
 3,4. Evaluation of exercise physiology: Lectures will be given on evaluation of respiration and metabolism by exercise, evaluation of changes including nerve and muscle anatomy and physiological functions, neural network analysis, and neuromodulation. (Responsible: Kasukawa)
 5,6,7,8. Diagnosis and treatment of musculoskeletal diseases: Diagnosis of musculoskeletal disorders of the spine and joints such as low back pain and ligament damage caused by exercise, including diagnosis and images, and coping and treatment methods. I will outline it including. (Responsible: Miyakoshi and Nozaka)

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	Exercise physiology 1	Associate professor Michio Hongo	Orthopedic Surgery 〔North Clinical Building 2nd floor, conference room〕
2			
3	Exercise physiology 2	Associate professor Yuji Kasukawa	
4			
5	Musculoskeletal disorders: spine	Professor Naohisa Miyakoshi	
6			
7	Musculoskeletal disorders: joints	Lecturer Koji Nozaka	
8			

Grading Criteria　（成績評価の基準と方法）

30 hours of lectures in the lecture room + 15 hours of self-study, 45 hours in total, 1 credit. The evaluation will be performed by the evaluation of attendance status and the results of oral examination.and written examination, and the contents of the submitted report will be taken into consideration.

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

Name: Department of Orthopedic Surgery / E-mail: seikei ＠ doc.med.akita-u.ac.jp

Coment　（その他特記事項）

	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〕

Information about courses: If you cannot attend the training due to work, such as a graduate student who is a member of society, 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.