Academic Year 2025

GRADUATE SCHOOL OF HEALTH SCIENCES
SYLLABUS
DOCTORAL COURSE

FUJITA HEALTH UNIVERSITY
GRADUATE SCHOOL OF HEALTH SCIENCES

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Pursuing Comprehensive Knowledge and Original Research in Health Sciences

Midori Hasegawa, Dean of the Graduate School of Health Sciences, Fujita Health University

The Doctoral Course in Health Sciences at the Graduate School of Health Sciences, Fujita Health University, is intended for individuals who have obtained a master's or professional degree, or an equivalent qualification. This course aims to train highly specialized professionals, researchers, and educators with advanced knowledge, scientific thinking skills, and a strong sense of ethics. Students are expected to collaborate with public health, welfare, and healthcare setting to address real-world challenges. The objective of this educational and research program is to cultivate the ability to address diverse issues from an interdisciplinary perspective. To this end, students will integrate nursing and rehabilitation sciences by fusing specialized academic knowledge that transcends conventional disciplinary boundaries.

Students acquire a broad understanding of key concepts in health sciences that are shared across fields through the common subjects: "Introduction to Health Sciences" and "Research Methodology in Health Sciences." Advanced topics in each specialty division deepen students' knowledge and skill, exposing them to the latest theories and research findings . Seminars are designed to cultivate students' ability to explore a wide range of issues and to develop and refine the critical thinking skills essential for effective problem-solving. During their doctoral research, students engage in sustained inquiry over three years. In the first semester, they formulate their research plans, and from the second semester onward, they carry out research based on those plans. Through this process, they enhance their creativity, theoretical reasoning, and proactive problem-solving abilities as they explore advanced knowledge in health sciences and examine key challenges in technological development. By the third year, students complete a doctoral dissertation...

This syllabus clearly outlines the course schedule, evaluation methods, and learning materials, enabling graduate students to engage proactively in their learning.

As faculty and staff, we are committed to supporting you throughout your three years at the Graduate School of Health Sciences, ensuring this time becomes an invaluable foundation for your future career development.

We sincerely hope that the dedicated efforts of our graduate students—who will play a vital role in realizing the "FUJITA VISION 2030" set forth by Fujita Academy—will bear meaningful fruit.

FUJITA VISION 2030
"Fujita Academy — Ready to Act When It Matters Most"
[Research] Towards the World's Most Creative Research Hub

- Establishing Next-Generation Laboratories Where Knowledge Converges and Innovation Emerges
- Promoting Next-Generation Research to Address the Needs of Future Society
- Fostering the Next Generation of Researchers Dedicated to Innovative Science

Three Policies of the Graduate School of Health Sciences

1. Admissions Policy

The Doctoral program in Health Sciences, Graduate School of Health Sciences, seeks applicant who possess the following qualities:

(1) Individuals who are committed to conducting research aimed at solving diverse areas of health sciences thorugh the exploration of scientific evidence.
(2) Individuals who are passionalte about pursuing truth by generating new knowledge and developing innovative techniques relevant to their research topics.
(3) Individuals who aspire to become educators, researchers, or academic leaders.
(4) Individuals with a strong motivation to dessimanate and apply their research findings in society and contribute to the advancement of health sciences.

2. Curriculum Policy

To ensure that students acquire the competencies outlined in the Diploma Policy, the Doctoral Program in Health Sciences systematically organize coursework – including lectures, seminars, and practical exercises - and research activities, based on the following curriculum principle. These aim to cultivate both basic and specialized expertise while fostering interdisciplinary integaraion across fields:

(1) Compulsory common courses provide a broad understanding of essential concepts in health sciences shared across disciplines, larying a strong academic basis for students to become educators, researchers, or advanced practioner.
(2) Advacned Topics and Seminars deepen prooressional knowledge and and technical skills in specific fields of health sciences, fostering the ability to identify and solve complex problems.
(3) Doctoral reserach cultivate students' ability to explore advanced scientific knowledge, build theoretical frameworks, and develop innovative techniques, ultimately preparing them to produce publishable work in international academic journals.
(4) Interdisciplinary and translational learning opportunitis, grounded in both basic and cliniacal research, promote the integration of diverse academic fields and the development of advanced theories and practices, while cultivating the ability to effectively disseminate and apply research outcomes in society.

3. Diploma Policy

To be awarded the Doctoral Degree in Health Sciences, students must fulfill several requirements . They include completing the minimum enrollment period and earning the required credits in accordance with the program's educational philosophy and objectives. Additionally, through the dissertation defense and final examination, they must demonstrate that they have acquired the essential competencies specified by the program.

(1) The ability to analyze problems and articulate them from original perspectives, grounded in a comprehensive understanding of existing research.
(2) The ability to select and apply appropriate methods of analyses to effectively address and resolve problems.
(3) The ability to present new findings and propose new techniques or theories that advance professional knowledge and practice within the relevant disciplines.
(4) The ability to pursue truth and conducting original research with a strong sense of academic integrity and independence.

The total number of credits required

1）Nursing, Rehabilitation Sciences

Course	Number of credits		Notes
	Mandatory	Elective	
Common subjects	4 credits		4 credits or more
Nursing	6 credits	4 credits	10 credits for each division
Rehabilitation Therapy Sciences	6 credits	4 credits	
Total	14 credits or more		

Curriculum table

Departments	Subject	Credit（Hours）		1st year		2nd year		3rd year	
		Mandatory	Elective	Autumn semester	Spring semester	Autumn semester	Spring semester	Autumn semester	Spring semester
Common Subjects	Introduction to Health Sciences	2 (30)			2				
	Research Methodology in Health Sciences	2 (30)		2					
Nursing	Advanced Topics in Health Care and Nursing Integrated Sciences		2 (30)		2				
	Seminars in Health Care and Nursing Integrated Sciences		2 (30)	2					
	Doctoral Research in Health Care and Nursing Integrated Sciences	6 (180)		1		2	1	1	1
Rehabilitation Therapy Sciences	Advanced Topics in Rehabilitation Therapy Sciences I （Rehabilitation Educational Sciences）		2 (30)		2				
	Advanced Topics in Rehabilitation Therapy Sciences II （Rehabilitation Educational Sciences）		2 (30)		2				
	Advanced Topics in Rehabilitation Therapy Sciences III (Bioinformatics and Therapeutic Systems Sciences)		2 (30)		2				
	Advanced Topics in Rehabilitation Therapy Sciences IV (Motor Control Instrumentation Sciences)		2 (30)		2				

	Seminars in Rehabilitation Therapy Sciences I (Rehabilitation Educational Sciences)		2 (30)	2					
	Seminars in Rehabilitation Therapy Sciences II (Rehabilitation Educational Sciences)		2 (30)	2					
	Seminars in Rehabilitation Therapy Sciences III (Bioinformatics and Therapeutic Systems Sciences)		2 (30)	2					
	Seminars in Rehabilitation Therapy Sciences IV (Motor Control Instrumentation Sciences)		2 (30)	2					
	Doctoral Research in Rehabilitation Therapy Sciences	6 (180)		1		2	1	1	1

Subjects and instructors

Departments	Course Title	Credits	Hours	Instructor
Common Subjects	Introduction to Health Sciences	2	30	KANADA Yoshikiyo, SUGAMA Junko, MURAYAMA Ryoko, TAKEHARA Kimie, SAKURAI Hiroaki, TERANISHI Toshio
	Research Methodology in Health Sciences	2	30	KANADA Yoshikiyo, SUGAMA Junko, SAKURAI Hiroaki, TERANISHI Toshio, MURAYAMA Ryoko, TAKEHARA Kimie, YAMADA Kouji, INAMOTO Yoko, TANABE Shigeo, TAKEDA Kotaro, MIYOSHI Yumiko, ONOGI Keiko, NAKAMURA Sayuri, SEKO Rumi, MIURA Yuka
Nursing	Advanced Topics in Health Care and Nursing Integrated Sciences	2	30	SUGAMA Junko, SEKO Rumi, MURAYAMA Ryoko, NAKAMURA Sayuri, TAKEHARA Kimie
	Seminars in Health Care and Nursing Integrated Sciences	2	30	SUGAMA Junko, MURAYAMA Ryoko, TAKEHARA Kimie
	Doctoral Research in Health Care and Nursing Integrated Sciences	6	180	SUGAMA Junko, MURAYAMA Ryoko, TAKEHARA Kimie
Rehabilitation Therapy Sciences	Advanced Topics in Rehabilitation Therapy Sciences I（Rehabilitation Educational Sciences）	2	30	KANADA Yoshikiyo, SAKURAI Hiroaki TANABE Shigeo
	Advanced Topics in Rehabilitation Therapy Sciences II (Rehabilitation Educational Sciences）	2	30	KANADA Yoshikiyo, SAKURAI Hiroaki TANABE Shigeo
	Advanced Topics in Rehabilitation Therapy Sciences III (Bioinformatics and Therapeutic Systems Sciences)	2	30	TERANISHI Toshio, INAMOTO Yoko, ONOGI Keiko
	Advanced Topics in Rehabilitation Therapy Sciences IV (Motor Control Instrumentation Sciences）	2	30	YAMADA Kouji, TANABE Shigeo, TAKEDA Kotaro
	Seminars in Rehabilitation Therapy Sciences I (Rehabilitation Educational Sciences）	2	30	KANADA Yoshikiyo, SAKURAI Hiroaki TANABE Shigeo
	Seminars in Rehabilitation Therapy Sciences II (Rehabilitation Educational Sciences）	2	30	KANADA Yoshikiyo, SAKURAI Hiroaki TANABE Shigeo
	Seminars in Rehabilitation Therapy Sciences III (Bioinformatics and Therapeutic Systems Sciences)	2	30	TERANISHI Toshio, INAMOTO Yoko, ONOGI Keiko
	Seminars in Rehabilitation Therapy Sciences IV (Motor Control Instrumentation Sciences)	2	30	YAMADA Kouji, TANABE Shigeo, TAKEDA Kotaro
	Doctoral Research in Rehabilitation Therapy Sciences	6	180	KANADA Yoshikiyo, SAKURAI Hiroaki, TERANISHI Toshio, INAMOTO Yoko, ONOGI Keiko, YAMADA Kouji, TANABE Shigeo, TAKEDA Kotaro

Introduction to Health Sciences

専攻分野 Major Field	Common	学年 Grade	1st year	期　間 Semester	Full-year
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	English		
担当教員名 Instructor	KANADA Yoshikiyo (Course Manager), SUGAMA Junko, SAKURAI Hiroaki, TERANISHI Toshio, MURAYAMA Ryoko, TAKEHARA Kimie				
科目概要 Course Aims	Lectures will cover the current state of knowledge across all fields of medicine and healthcare, including those beyond nursing and rehabilitation. Students will acquire up-to-date, advanced knowledge necessary for medical and healthcare professionals involved in disease prevention and health promotion. The course will incorporate perspectives from healthcare, nutrition, humanities and social sciences, psychology, and social welfare sciences. In addition, the rising importance of preventive medicine in addressing lifestyle-related diseases, disabilities, and conditions caused by environmental factors has highlighted the need for public health science. In this context, students will also learn about health statistics, community health, maternal and health, occupational health, mental health, environmental science, psychological factors, living environment, and other aspects of healthcare to prevent disease, and maintain and promote health.				
到達目標 Objectives	To obtain a wide range of knowledge and perspectives on research topics in nursing and rehabilitation therapy sciences				

回数 Chapters	授業計画 Course schedule (topic for each time)	担当教員 Instructor
1	Current state of physical and occupational therapists involved in healthcare, as well as the educational environment, social structures, and issues.	KANADA Yoshikiyo
2	The purpose of clinical practice guidelines and how to create them.	SUGAMA Junko
3	Standardization of skills in the rehabilitation field and the application of OSCE (Objective Structured Clinical Examination).	SAKURAI Hiroaki
4	Methods to increase the amount and range of activities in the rehabilitation ward while reducing the risk of falls, fall risk assessment, and management methods.	TERANISHI Toshio
5	Commentary on creating evidence for nursing care through multidisciplinary integration.	MURAYAMA Ryoko
6	Importance of preventive care for diabetic foot.	TAKEHARA Kimie
7-10	Attendance in seminars on medical and healthcare sciences provided by researchers from inside and outside of the university, held four times a year.	KANADA Yoshikiyo
11-15	Basic, current, and advanced knowledge as researchers by participating in special lectures and symposiums of the 藤田医科大学医学会学術大会(英語正式名称を入力), ethics seminars, compliance seminars, the APRIN e-learning program, and 博士後期課程学位論文公開発表会(英語正式名称を入力) held on campus.	KANADA Yoshikiyo

評価法・基準 Grading Policies	Grading will be done based on students' attitude (20%) and discussion with faculty members and other staff (80%) by the Course Manager. If necessary, adequate feedback will be given during the discussion or by email.		
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	Textbooks and reference materials will be introduced as needed.

オフィス アワー Office Hour	KANADA：by email SUGAMA：by email SAKURAI：by email TERANISHI：by email MURAYAMA：by email TAKEHARA by email	連絡先 Contact	
準備学習 Preparation of study	These lectures will be instructed in English only, including discussions. Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	None

Research Methodology in Health Sciences

専攻分野 Major Field	Common	学年 Grade	1st year	期 間 Semester	2nd semester
授業形態 Style	Lecture / Seminar	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	KANADA Yoshikiyo (Course Manager), SUGAMA Junko, SAKURAI Hiroaki, TERANISHI Toshio, MURAYAMA Ryoko, TAKEHARA Kimie, YAMADA Kouji, INAMOTO Yoko, TANABE Shigeo, TAKEDA Kotaro, MIYOSHI Yumiko, NAKAMURA Sayuri, ONOGI Keiko, SEKO Rumi, MIURA Yuka				
科目概要 Course Aims	When individuals develop a disease, they typically receive medical treatment at healthcare institutions. It is widely accepted that early detection and treatment of a disease result in better outcomes. Furthermore, it is also important to promote health by setting up an environment that prevents diseases. Seamless medical care, including not only the treatment of diseases but also the prevention and maintenance of health, will be discussed. As technological innovations continue to advance, specific technologies such as robots, information and communication technology (ICT), and artificial intelligence (AI) have also been increasingly applied in clinical practice. Findings from demonstrations and current research will be presented as specific examples. Students will have an opportunity to learn about collaborative research in medical and healthcare fields through discussions and apply this knowledge to their respective research interests.				
到達目標 Objectives	To obtain working knowledge and skills related to research in nursing integrated science, motor control measurement science, and rehabilitation education science in the two fields of health science as well as acquire the ability to utilize the aforesaid knowledge for research				

回数 Chapters	授業計画 Course schedule (topic for each time)	担当教員 Instructor
1	Educational topics and solutions for physical and occupational therapists responsible for rehabilitation therapy and healthcare.	KANADA Yoshikiyo
2-3	Systematic reviews and meta-analysis in relation to clinical practice guidelines.	SUGAMA Junko MIURA Yuka
4	Current state of standardization of skills in the rehabilitation education field will be explained.	SAKURAI Hiroaki
5	Three-dimensional motion analysis methods to evaluate motor impairment in hemiplegic patients; the severity of impairment and disability, the course after onset, methodology including the use of orthotics and assistive devices, and outcomes of gait reconstruction in hemiplegic patients.	TERANISHI Toshio
6	Expansion of nursing care with ultrasonography: clinical study, algorithm development, and empirical study.	MURAYAMA Ryoko
7	Nursing science and engineering research in tinea pedis care: clinical study, care development, and empirical study.	TAKEHARA Kimie
8	Molecular mechanism of the decline in cognitive function associated with aging from the perspective of morphological changes in neurons in the hippocampus, receptors, neurotransmitters, and neural networks, and long-term potentiation (LTP) and long-term depression (LTD) of synapses; how exercise can improve cognitive decline.	YAMADA Kouji
9	Overview of treatment-oriented evaluation in patients with dysphagia, from conventional methods to the latest methods.	INAMOTO Yoko
10	Overview of the various activity assistive devices used in the rehabilitation sciences.	TANABE Shigeo
11	Overview of the regression, classification, and machine learning methods that form the basis of AI algorithms.	TAKEDA Kotaro
12	Methods of scale development and trends in self-regulated learning research.	MIYOSHI Yumiko
13	Overview of research trends regarding interprofessional collaboration in health care.	NAKAMURA Sayuri

14	Outline the practice and problems of rehabilitation in the home-based phase.		ONOGI Keiko
15	Prevention of lifestyle-related diseases from the perspective of health measures.		SEKO Rumi
評価法・基準 Grading Policies	Grading will be done based on students' attitude (30%) and discussion with faculty members and other staff (70%) by the Course Manager.		
教科書 Text Book	Textbooks will be distributed as needed	教材・参考書 Reference Book	Reference materials will be introduced as needed
オフィスアワー Office Hour	KANADA：by email SUGAMA：by email SAKURAI：by email TERANISHI：by email MURAYAMA：by email TAKEHARA by email YAMADA： by email INAMOTO： by email TANABE： by email TAKEDA：by email MIYOSHI： by email NAKAMURA： by email ONOGI： by email SEKO： by email	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	

Advanced Topics in Health Care and Nursing Integrated Sciences

専攻分野 Major Field	Nursing	学年 Grade	1st year	期　間 Semester	1st semester
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	SUGAMA Junko, MURAYAMA Ryoko, TAKEHARA Kimie, NAKAMURA Sayuri, SEKO Rumi				
科目概要 Course Aims	The course will explore the maintenance and promotion of health and health restoration for people living in the community through theories about people's health, the surrounding environment, and physical, mental, psychological, and social influences. The course also will outline the basics of implementation science, using various theories, research designs, and methodologies to implement and disseminate evidence-based practices in healthcare and public health activities.				
到達目標 Objectives	1. Explain people's health, the surrounding environment, and the physical, mental, psychological, and social impacts. 2. Identify problems arising from the above and propose solutions through theoretical frameworks 3. Explain the basics of implementation science for implementing and disseminating evidence-based practices in healthcare and public health activities.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1	What is Implementation Science?	SUGAMA Junko
2	Methods of Implementation Science from the Literature an	SUGAMA Junko
3	Theory and Frameworks for Implementation Science	SUGAMA Junko
4	Strategies for Implementation Science	SUGAMA Junko
5	Principles for Health Design Thinking	SUGAMA Junko
6	Methods for Health Design Thinking	SUGAMA Junko
7	Case Studies Using the Health Design Thinking	SUGAMA Junko
8	Current Situation and Issues of people Living in the Community and Health and Welfare Policy	SEKO Rumi
9	Theory of Health Maintenance and Promotion for People Living in the Community	SEKO Rumi
10	Nursing Theory for Patient Understanding	NAKAMURA Sayuri,
11	Theory and Nursing Research	NAKAMURA Sayuri
12	Translational Research Based on Nursing Science and Engineering Methods	MURAYAMA Ryoko
13	Innovations in Medicine and Nursing	MURAYAMA Ryoko
14	Nursing Research and Social Conditions	TAKEHARA Kimie
15	Nursing Research and the Paradigm Shift in Nursing	TAKEHARA Kimie

評価法・基準 Grading Policies	Grading will be based on reports, seminar materials, and examinations (70%) and class attitude (30%). In order to evaluate students' understanding of the learning objectives, assignments such as reports, preparation materials, or oral examinations will be given. Explanations and feedback will provided after each assignment.		
教科書 Textbook	None	教材・参考書 Reference Book	None
オフィスアワー Office Hour	All faculty members are available online for 30 minutes after class	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend one hour preparing in advance on the assigned topic. After each class, students are also expected to spend about 1 hour reviewing the material. Students are expected to approach all activities with curiosity and a positive attitude.	履修上の注意点 Notice for Students	Materials to be used in class will be uploaded to Teams in advance/

Seminars in Health Care and Nursing Integrated Sciences

専攻分野 Major Field	Nursing	学年 Grade	1st year	期　間 Semester	2nd semester
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	SUGAMA Junko, MURAYAMA Ryoko, TAKEHARA Kimie				
科目概要 Course Aims	Discussions will be held on the core concepts, theories, and methods based on the theories learned in the Advanced Course and recent trends in research. In addition, students will explore ways of addressing clinical questions and research questions, and learn the entire process from reseach planning to the dissemination of research results, through practical examples.				
到達目標 Objectives	1. Discuss and critically examine the underlying ideas, theories, and methods from theories and recent research trends 2. Describe the evidence and logical skills necessary for conducting one's own research				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1-15	Preparation of literature review Clarification of research objectives based on literature review Research methods based on research objectives Ethics in nursing research Data collection and analysis Writing and Publication	SUGAMA Junko MURAYAMA Ryoko TAKEHARA Kimie

評価法・基準 Grading Policies	Grading will be based on reports, seminar materials, and examinations (70%) and class attitude (30%). In order to evaluate students' understanding of the learning objectives, assignments such as reports, preparation materials, or oral examinations will be given. Explanations and feedback will provided after each assignment.		
教科書 Textbook	None	教材・参考書 Reference Book	None
オフィス アワー Office Hour	Each research supervisor will be available for 30 minutes after class for online or email based consultation.	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend one hour preparing in advance on the assigned topic. After each class, students are also expected to spend about 1 hour reviewing the material. Students are expected to approach all activities with curiosity and a positive attitude.	履修上の注意点 Notice for Students	Materials to be used in class will be uploaded to Teams in advance

Doctoral Research in Health Care and Nursing Integrated Sciences

専攻分野 Major Field	Nursing	学年 Grade	1st ・ 2nd ・ 3rd year	期 間 Semester	Full-year
授業形態 Style	Seminar	単位 Credits	6	時間数 Hours	180
授業方法 Class Methods	Remote or In-person class	使用言語 Language	Japanese		
担当教員名 Instructor	SUGAMA Junko, MURAYAMA Ryoko, TAKEHARA Kimie				
科目概要 Course Aims	In the doctoral research course , students will conduct research on the construction of evidence in nursing and its social implementation, culminating in the completion of a doctoral dissertation. Through the process, students will learn a series of academic research, including selecting a research theme, reviewing previous studies, designing the research plan, conducting experiments or surveys, and engaging in critical discussion. In addition, students will cultivate scientific integrity, ethical awareness, a proper attitude toward research, creativity, and deeper understanding of the nature of scientific inquiry through the preparation of their doctoral dissertations. The main research themes of each faculty member are as follows: (SUGAMA Junko) 1. Development of evidence and its implementation for prevention and management of chronic wound and vulnerable skin tissue 2. Development of evidence and its implementation for nursing interventions and clinical skills 3. Evaluation of nursing role and function in the interdisciplinary approach to the health care (MURAYAMA Ryoko) 1. Research on the creation of evidence-based nursing technology and the construction of systems for social implementation 2. Research on the development of educational programs including the development of teaching materials and human resource development for the dissemination of nursing technology and its social implementation (TAKEHARA Kimie) 1. Research on the development and social implementation of diabetic foot ulcer preventive care and assessment technology using nursing science and engineering methods 2. Research on a series or part of the process to create of advanced new nursing care by the clinical seeds and its social implementation (i.e., its widespread return to clinical field) 3. Research on the working environment and education of nurses, and patient education				
到達目標 Objectives	The goals of this course are to be able to - decide the research subject and investigate the related literature. - determine the framework for promoting research, learn the research methods, and conduct research. - interpret and discuss your research results logically. - write a doctoral thesis.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1-10 (1st year)	Continue research activities and summarize the results to create a thesis. Creating a research plan and making research planning documents. Applying for a document to the relevant ethics committee.	Each research supervisor
11-15 (1st year)	With the approval of the relevant ethics committee, proceeding with research preparations and starting research activities.	
16-60 (2nd year)	Data collection / survey / experiment, data analysis, discussion of research results, interpretation and evaluation of data, and consideration using relevant literature according to the research plan.	
61-90 (3rd year)	Continuing research activities. Compilation of the results and creating a thesis.	

長期履修 授業計画 Long-term study Class plan	Long-term students will consult with their research supervisor according to the duration of the course and make a course plan.		
評価法・基準 Grading Policies	Grading will be based on reports, seminar materials, and examinations (70%) and class attitude (30%). In order to evaluate students' understanding of the learning objectives, assignments such as reports, preparation materials, or oral examinations will be given. Explanations and feedback will provided after each assignment.. However, participation in 2-field joint research seminars is mandatory.		
教科書 Textbook	None	教材・参考書 Reference Book	None
オフィス アワー Office Hour	Each research supervisor will be available for 30 minutes after class for online or email based consultation.	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend one hour preparing in advance on the assigned topic. After each class, students are also expected to spend about 1 hour reviewing the material. Students are expected to approach all activities with curiosity and a positive attitude.	履修上の注意点 Notice for Students	Materials to be used in class will be uploaded to Teams in advance

Advanced Topics in Rehabilitation Therapy Sciences I

(Rehabilitation Educational Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期　間 Semester	1st semester
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	KANADA Yoshikiyo, SAKURAI Hiroaki, TANABE Shigeo				
科目概要 Course Aims	Education for therapists can be divided into three stages: pre-graduate education, which includes classroom and clinical training; post-graduate education for novice therapists; and specialized training for clinical instructors. In this course, students will engage in lectures and discussions on the following topics: 1. standardization of clinical skills in physical therapist education; 2. The reliability, validity, and effectiveness of Objective Structured Clinical Examination (OSCE); and 3. educational methods in clinical training for students, training for novice therapists, and training programs for clinical instructors.				
到達目標 Objectives	1. Explain the present state and problems of physical therapist education in Japan; 2. Explain the techniques for clinical skill standardization and the reliability, validity, and effectiveness of OSCE. 3. Explain student clinical training, training of novice physical therapists, and training of clinical instructors.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1	Current status of therapists, education environment, social structure, issues	KANADA Yoshikiyo
2	Therapist-related regulations, social security, occupational fields	KANADA Yoshikiyo
3	Definition and various domains of rehabilitation, related professions Designation rules, compliance, interdisciplinary collaboration	KANADA Yoshikiyo
4	Communication, external evaluation by third parties	KANADA Yoshikiyo
5	Elementary and secondary education and psychological characteristics of youth (including developmental disorders)	SAKURAI Hiroaki
6	Essence, purpose, history, educational curriculum, system	SAKURAI Hiroaki
7	Educational psychology, information utilization, teaching methods, learning theories	SAKURAI Hiroaki
8	Educational curriculum, lesson design	SAKURAI Hiroaki
9-10	Clinical practice instruction, coaching, and teaching	SAKURAI Hiroaki
11-12	Communication, external evaluation by third parties	SAKURAI Hiroaki
13	Research methods, research design, statistics	TANABE Shigeo
14	Significance, types, methods of educational evaluation	TANABE Shigeo
15	Classroom evaluation, grading, exam question creation, clinical practice evaluation	TANABE Shigeo

評価法・基準 Grading Policies	Grading will be considered comprehensively by the course instructor based on discussions held during the lecture (30%) and submitted reports (70%). Feedback will be provided during the course to address areas where students have not yet met the learning objectives.

教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	Reference materials and textbooks will be introduced as needed.
オフィス アワー Office Hour	KANADA Yoshikiyo Building 8-1F-106 Monday 12:00-13:00 SAKURAI Hiroaki Building 8-1F-106 Monday 12:00-13:00 TANABE Shigeo Building 8-1F-112 Monday 12:10-13:00 E-mail us if you have any questions.	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	

Advanced Topics in Rehabilitation Therapy Sciences II

(Rehabilitation Educational Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期 間 Semester	1st semester
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	KANADA Yoshikiyo, SAKURAI Hiroaki, TANABE Shigeo				
科目概要 Course Aims	Students will conduct their own research on topics covered in the Rehabilitation Therapy Science Seminar I, and critically evaluate the results to enhance the level of knowledge retention. Furthermore, by discussing these findings with others, students will deepen their understanding and concurrently learn about innovative teaching methods.				
到達目標 Objectives	1. Explain the status of and issues in therapist education in Japan, as well as other relevant regulation; 2. Explain the essence and purpose of education, learning psychology, and related topics; 3. Explain educational curriculum and classroom settings; 4. Explain student clinical practice, training of novice physical therapists, and training of clinical practice instructors; 5. Explain appropriate research and statistical processing methods.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1	Status, educational environment, societal structure, and issues concerning therapists	KANADA Yoshikiyo
2	Therapist-related regulations, social security, and occupational domains	KANADA Yoshikiyo
3	Definition of rehabilitation, its various domains, and related professions	KANADA Yoshikiyo
4	Designation rules, compliance, and interdisciplinary collaboration Effective communication and external evaluation by third parties	KANADA Yoshikiyo
5	Primary and secondary education and the psychological characteristics of youth (including developmental disorders)	SAKURAI Hiroaki
6	Essence, purpose, history, curriculum, and system of education	SAKURAI Hiroaki
7	Learner psychology, information utilization, teaching methods, and learning theories	SAKURAI Hiroaki
8	Educational curriculum and instructional design	SAKURAI Hiroaki
9-10	Clinical practice instruction	SAKURAI Hiroaki
11-12	Clinical practice facilities	SAKURAI Hiroaki
13	Research methods, research design, and statistics	TANABE Shigeo
14	Significance, types, and methods of educational evaluation	TANABE Shigeo
15	Classroom evaluation, grading, and exam question creation Evaluation of clinical practice	TANABE Shigeo

評価法・基準 Grading Policies	Grading will be considered comprehensively by the course instructor based on discussions held during the lecture (30%) and submitted reports (70%). The points which do not reach the goal are fed back in the lecture.		
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	Textbooks and reference materials will be introduced as needed.

オフィス アワー Office Hour	KANADA Yoshikiyo Building 8-1F-106 Monday 12:00-13:00 SAKURAI Hiroaki Building 8-1F-106 Monday 12:00-13:00 TANABE Shigeo Building 8-1F-112 Monday 12:10-13:00 E-mail us if you have any questions.	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	

Advanced Topics in Rehabilitation Therapy Sciences III

(Bioinformatics and Therapeutic Systems Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期 間 Semester	1st semester
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	TERANISHI Toshio, INAMOTO Yoko, ONOGI Keiko				
科目概要 Course Aims	This course focuses on the rehabilitation evaluation and treatment approaches for activity disorders, which is the core of rehabilitation medicine. Students will learn the methodology of analyzing a wide range of biological information as well as analysis of treatment and therapeutic methods. Students will review the latest findings from local and international literature, organize the known and unknown facts, identify current issues, and discuss evidence-based evaluation and treatment approaches.				
到達目標 Objectives	1. Explain the theory of muscle strengthening. 2. Explain the methods of biological information analysis used in gait analysis. 3. Explain the methodology of reconstruction of activity and its approach. 4. Explain the analysis of swallowing evaluation. 5. Explain functional changes associated with aging and how to deal with them. 6. Explain the importance of nutritional management in rehabilitation.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1	Methodology of muscle strengthening exercise	TERANISHI Toshio
2	Evaluation and exercise of balance	TERANISHI Toshio
3	Evaluation of gait	TERANISHI Toshio
4	Biometric analysis methods	TERANISHI Toshio
5	Analysis and discussion of treatment options	TERANISHI Toshio
6	Methodology of reconstructive activity	INAMOTO Yoko
7	Methodology of therapeutic learning using assistive systems	INAMOTO Yoko
8	Treatment oriented evaluation of swallowing evaluation	INAMOTO Yoko
9	Analysis of imaging evaluation	INAMOTO Yoko
10	Element based swallowing exercise and task oriented swallowing exercise	INAMOTO Yoko
11	Evaluation of independence of ADL and nursing care level	ONOGI Keiko
12-13	Evaluation of nutrition and rehabilitation	ONOGI Keiko
14-15	Evaluation of cognitive function and psychological state with aging	ONOGI Keiko

評価法・基準 Grading Policies	Grading will be comprehensively based on assigned reports (70%) and contributions to discussions in each lecture, including oral examinations (30%).		
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	

オフィス アワー Office Hour	TERANISHI Toshio Building 8-7F-704 INAMOTO Yoko Building 8-7F-703 ONOGI Keiko Building 8-7F-708 E-mail if you have any questions	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	You can take notes by hand or on your computer. Bring your own laptop to every class. Stay curious and actively participate.

Advanced Topics in Rehabilitation Therapy Sciences Ⅳ

(Motor Control Instrumentation Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期　間 Semester	1st semester
授業形態 Style	Lecture	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	Remote class	使用言語 Language	Japanese		
担当教員名 Instructor	YAMADA Kouji, TANABE Shigeo, TAKEDA Kotaro				
科目概要 Course Aims	In this course, students will learn practical methods to summarize related studies for motor control and functional recovery in rehabilitation and deepen their understanding by discussing critically the latest knowledge with clinical, anatomical, and physiological principles. To understand related studies and to promote the students' thesis, they will also learn about measurement instruments, biomedical measurements, signal processing, and statistical methods.				
到達目標 Objectives	1. Explain the latest research and trends in biomedical measurements and rehabilitation engineering. 2. Critically appraise the methods, results, and discussion of the related research papers. 3. Make appropriate figures, tables, and presentation slides. 4. Select optimal statistical processing methods and interpret the data appropriately.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1	Survey of previous findings	TAKEDA Kotaro
2	Perception of manuscript structure, and reading comprehension from a critical perspective	TAKEDA Kotaro
3	Investigation of research trends	TAKEDA Kotaro
4	Measurement and evaluation from an anatomical point of view	YAMADA Kouji
5	Measurement and evaluation from a physiological point of view	YAMADA Kouji
6	Measurement and evaluation from a biochemical perspective	YAMADA Kouji
7-8	Measurement and evaluation from a molecular biology perspective	YAMADA Kouji
9	Concept of instrumentation in rehabilitation engineering	TANABE Shigeo
10	Data acquisition and signal processing from various biometric instruments	TANABE Shigeo
11	Statistical analysis method used for research on motion control	TANABE Shigeo
12	Programming languages for biometrics (concept)	TANABE Shigeo
13	Programming languages for biometrics (implementation)	TANABE Shigeo
14	Programming languages for signal and statistical processing (concept)	TAKEDA Kotaro
15	Programming languages for signal and statistical processing (implementation)	TAKEDA Kotaro
評価法・基準 Grading Policies	Grading will be comprehensively based on assigned reports (70%) and contributions to discussions in each lecture, including oral examinations (30%).	

教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	
オフィス アワー Office Hour	YAMADA Kouji Building 8-7F-707 TANABE Shigeo Building 8-1F-112 TAKEDA Kotaro Nanakuri Memorial Hospital E-mail us if you have any questions.	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	

Seminars in Rehabilitation Therapy Sciences I

(Rehabilitation Educational Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期　間 Semester	2nd semester
授業形態 Style	Seminar	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	In-person class	使用言語 Language	Japanese		
担当教員名 Instructor	KANADA Yoshikiyo, SAKURAI Hiroaki, TANABE Shigeo				
科目概要 Course Aims	To prepare therapists who can meet the demands of advanced medical care and diverse needs of patients, this practicum provides a platform for discussing more effective teaching methods across various levels of therapist education. These include pre-graduate education, including classroom and clinical training; post-graduate education for novice therapists; and training for clinical instructors. Discussions will focus on particularly on clinical skills education using Objective Structured Clinical Examination (OSCE). Additional topics include the development of effective clinical training programs as well as the implementation of collaborative education system involving both university teachers and clinical training instructors. Students will also have hands-on experience and practice in statistical analysis using statistical software. By practicing the process from data analysis to presentation, students will acquire skills in basic research methods.				
到達目標 Objectives	1. Explain the problems in physical therapist education in Japan and possible solutions. 2. Explain the clinical technical competence assessment of physical therapists using OSCE. 3. Select, implement, and interpret appropriate statistical processing methods.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1-4	Issues in therapist education in Japan and their corresponding solutions	KANADA Yoshikiyo
5-6	Content of clinical practice for training clinical instructors	SAKURAI Hiroaki
7-8	Educational and instructional system between university faculty and clinical practice instructors	SAKURAI Hiroaki
9-10	Standardization of skills for physical therapists and occupational therapists	SAKURAI Hiroaki
11-12	Objective clinical competency examinations	SAKURAI Hiroaki
13	Educational research targeting students in training schools	TANABE Shigeo
14	Educational research targeting post-graduate therapists	TANABE Shigeo
15	Statistical analysis methods necessary for research in therapist education	TANABE Shigeo

評価法・基準 Grading Policies	Grading will be considered comprehensively by the course instructor based on students' attitude, performance, discussions during the lectures (30 %) and submitted reports (70%).		
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	

オフィス アワー Office Hour	KANADA Yoshikiyo Building 8-1F-106 Monday 12:00-13:00 SAKURAI Hiroaki Building 8-1F-106 Monday 12:00-13:00 TANABE Shigeo Building 8-1F-112 Monday 12:10-13:00 E-mail us if you have any questions.	連絡先 Contact	
準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	

Seminars in Rehabilitation Therapy Sciences II

(Rehabilitation Educational Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期 間 Semester	2nd semester
授業形態 Style	Seminar	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	In-person class	使用言語 Language	Japanese		
担当教員名 Instructor	KANADA Yoshikiyo, SAKURAI Hiroaki, TANABE Shigeo				
科目概要 Course Aims	To develop the ability to independently study advanced and effective therapist education, one conducts literature reviews based on specific themes, summarizes the findings, and clarifies insights and future challenges. By critically analyzing others' presentations and engaging in constructive discussions, students develop rational thinking and analytical skills. Furthermore, reading and discussing the latest English-language research literature will allow students to deepen their understanding of their own research topics and enhance their skills in research methodology, data analysis, and academic writing. Through independent research activities, students are encouraged to explore related knowledge areas, identify problems and potential solution—fostering a capacity for lifelong learning and independent thinking.				
到達目標 Objectives	1. Explain the issues in therapist education in Japan and their corresponding solutions. 2. Explain clinical practice. 3. Explain student education. 4. Explain post-graduate education and training for therapists.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1-4	Issues in therapist education in Japan	KANADA Yoshikiyo
5-8	Clinical practice	SAKURAI Hiroaki
9-12	Student education	SAKURAI Hiroaki
13-15	Post-graduate education and training for therapists	TANABE Shigeo

評価法・基準 Grading Policies	Grading will be considered comprehensively by the course instructor based on students' attitude, performance, discussions during the lecture (30%) and submitted reports (70%).		
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	
オフィス アワー Office Hour	KANADA Yoshikiyo Building 8-1F-106 Monday 12:00-13:00 SAKURAI Hiroaki Building 8-1F-106 Monday 12:00-13:00 TANABE Shigeo Building 8-1F-112 Monday 12:10-13:00 E-mail us if you have any questions.	連絡先 Contact	

準備学習 Preparation of study	Students are expected to spend about 30 minutes preparing for each topic and organizing their own thoughts before each class. After the class, students will take about 60 minutes to review and write a summary of class notes.	履修上の注意点 Notice for Students	

Seminars in Rehabilitation Therapy Sciences III

(Bioinformatics and Therapeutic Systems Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期 間 Semester	2nd semester
授業形態 Style	Seminar	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	In-person class	使用言語 Language	Japanese		
担当教員名 Instructor	TERANISHI Toshio, INAMOTO Yoko, ONOGI Keiko				
科目概要 Course Aims	The course focuses on the practice and discussion based on the acquired knowledge and methodology from the Seminars in Rehabilitation Therapy Sciences III (Bioinformatics and Therapeutic Science). Students will analyze biological information, interpret and present findings, review basic science and clinical research, and discuss future research directions for clinical practice.				
到達目標 Objectives	1. Explain research trends in rehabilitation assessment and therapy. 2. Explain the latest findings in rehabilitation assessment and therapy.				

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1-15	Review and discussion of the required research direction in the following topics: • Muscle strengthening exercise • Balance rehabilitation • Gait analysis • Motor learning on swallowing exercise • Latest treatment-oriented evaluation in dysphagia (Swallowing CT, High resolution manometry) • Posture techniques and swallowing maneuvers in task-oriented exercise • ADL independent level and care level • Evaluation of nutrition • Cognitive and psychological changes with aging • Directions for predicting pathological changes and functional improvement through analysis of biological information	TERANISHI Toshio INAMOTO Yoko ONOGI Keiko

評価法・基準 Grading Policies	Grading will be comprehensively by the course instructor based on assigned reports (70%) and contributions to discussions, including oral examinations (30%).		
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book	
オフィスアワー Office Hour	TERANISHI Toshio Building 8-7F-704 INAMOTO Yoko Building 8-7F-703 ONOGI Keiko Building 8-7F-708 E-mail if you have any questions	連絡先 Contact	

準備学習 Preparation of study	Students spend more than 60 minutes preparing English papers related to each topic and understand the outline before participating in the seminar. After the seminar, students review them for about 30 minutes and write down important points in their notebook.	履修上の注意点 Notice for Students	You can take notes by hand or on your computer. Bring your own laptop to every class. Stay curious and actively participate.

Seminars in Rehabilitation Therapy Sciences IV

(Motor Control Instrumentation Sciences)

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st year	期 間 Semester	2nd semester
授業形態 Style	Seminar	単位 Credits	2	時間数 Hours	30
授業方法 Class Methods	In-perswwon class	使用言語 Language	Japanese		
担当教員名 Instructor	YAMADA Kouji, TANABE Shigeo, TAKEDA Kotaro				
科目概要 Course Aims	In this course, students will read original papers and reviews related to motor control, functional recovery, biomedical measurements, and rehabilitation engineering as well as discuss the contents of the papers and how to describe them. Through these discussions, students will deepen their understanding of key concepts such as the physiological basis of motor control, biomedical signal processing, and related statistical methods, and utilize them for their own research. In the process of preparing materials for the class discussion, the students will also learn essential skills for presenting research, including how to create clear and informative figures and tables.				
到達目標 Objectives	1. Explain research trends and latest knowledge on motor control, functional recovery, biomedical measurements, and rehabilitation engineering. 2. Verify and state opinions on the methods, results, and discussions of the papers. 3. Deliver relevant presentations using appropriate figures and tables. 4. Select appropriate statistical processing methods and implement them.				
回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)				担当教員 Instructor
1-6	Reading and discussion of latest English papers on motor control and functional recovery				YAMADA Kouji TANABE Shigeo TAKEDA Kotaro
7-8	Reading and discussion of latest English papers on biomedical measurements				YAMADA Kouji TAKEDA Kotaro
9-15	Reading and discussion of latest English papers on rehabilitation engineering				YAMADA Kouji TANABE Shigeo TAKEDA Kotaro
評価法・基準 Grading Policies	Grading will be comprehensively based on assigned reports (70%) and contributions to discussions in each lecture, including oral examinations (30%).				
教科書 Text Book	Lecture materials will be distributed as needed.	教材・参考書 Reference Book			
オフィスアワー Office Hour	YAMADA Kouji Building 8-7F-707 TANABE Shigeo Building 8-1F-112 TAKEDA Kotaro Nanakuri Memorial Hospital E-mail us if you have any questions.	連絡先 Contact			
準備学習 Preparation of study	Students spend more than 60 minutes preparing English papers related to each topic and understand the outline before participating in the seminar. After the seminar, students review them for about 30 minutes and write down important points in their notebook.	履修上の注意点 Notice for Students			

Doctoral Research in Rehabilitation Therapy Sciences

専攻分野 Major Field	Rehabilitation Science	学年 Grade	1st ・ 2nd ・ 3rd year	期 間 Semester	Full-year
授業形態 Style	Seminar	単位 Credits	6	時間数 Hours	180
授業方法 Class Methods	In-person class	使用言語 Language	Japanese		
担当教員名 Instructor	KANADA Yoshikiyo, SAKURAI Hiroaki, TERANISHI Toshio, YAMADA Kouji, INAMOTO Yoko, ONOGI Keiko, TANABE Shigeo, TAKEDA Kotaro				

科目概要
Course Aims

Rehabilitation Educational Sciences

In the field of Rehabilitation Educational Sciences, research targets educational methods for the training of physiotherapists and occupational therapists who can contribute to team medicine and have high teaching ability. The construction of clinical skills education and clinical practice based on the increasing sophistication of rehabilitation and the diversification of patient requirements will be examined. In addition, the training of practical training supervisors for the effective implementation of clinical practice will be examined. Furthermore, a new educational guidance system that strengthens cooperation between training school teachers and practice supervisors will be examined.

KANADA Yoshikiyo

Research is conducted on therapist education from the perspective of Evidence-Based Medicine (EBM). Additionally, studies are undertaken on topics such as society, urban development, and community health. The following themes are addressed in research supervision:

1. Studies on the outcomes of physical therapist education
2. Studies on the standardization of treatment techniques for physical therapists
3. Studies on the clinical training guide for physical therapists
4. Studies on the student, novice physical therapist, and patient education

SAKURAI Hiroaki

Research focuses on the training of therapist educators equipped with high levels of technical expertise, leadership abilities, and teaching skills. The following themes are addressed in research supervision:

1. Studies on the objective evaluation of therapist skills
2. Studies on the training of practical training supervisors
3. Studies on cooperative education and guidance systems at training schools and practice sites
4. Studies on the standardization of treatment techniques for physiotherapists and occupational therapists
5. Studies on lifelong learning of post-graduate therapists

科目概要 Course Aims	*Bioinformatics and Therapeutic Systems Sciences* In the fields of Bioinformatics and Therapeutic Systems Sciences, research focuses on the practical science of activity disorders, encompassing activities, interventions, and behavior change strategies based on bioinformation. This includes kinetic analysis of swallowing dynamics, identification of swallowing dysfunction, and refinement of swallowing techniques and practice methods. Moreover, with the increasing demands of an aging society for seamless medical care spanning from acute to long-term phases, research guidance is provided to develop original ideas regarding elderly medical care. This involves addressing independence in activities of daily living, nutritional status, cognitive function, changes over time in pathological conditions, and predicting symptom improvement and healing. TERANISHI Toshio With the advancement of medical specialization and differentiation, problems that cannot be solved without the cooperation of professionals are occurring. In this special research, a doctoral thesis will be created using keywords such as activity, intervention, and behavior change. In the course, students will learn a series of a doctoral thesis writing processes, such as selecting a research theme, reviewing previous research, drafting a research plan, experimenting, and considering. In addition, through writing a doctoral thesis, students will learn how to conduct research, including the conscience of scientists, attitudes toward research, and creative ideas. Themes are summarized in the following four. 1. Research on posture and movement of patients and healthcare workers. 2. Research on quantitative measurement of spasticity 3. Research on fall prevention, fall risk evaluation and patient management. 4. Research on time study and consequences of rehabilitation intervention. INAMOTO Yoko This course involves conducting research related to swallowing and dysphagia rehabilitation. The goal of the research is to elucidate the physiology of swallowing, characterize the factors underlying dysphagia, and evaluate the effects of swallowing using kinematic and/or kinetic analysis, such as videofluoroscopy, swallowing CT, and high-resolution manometry. Specific research interests include the mechanism of airway protection during swallowing, mechanism of UES opening and relaxation, as well as kinematic and/or kinetic effects of swallowing maneuvers, tongue and pharyngeal strengthening exercises, and intensive dysphagia treatment. Focused areas: 1. Studies on the physiology of swallowing 2. Studies of the pathophysiology of dysphagia 3. Studies on the swallowing exercise and maneuvers ONOGI Keiko It is important to understand the changes and characteristics associated with aging in implementing rehabilitation for the elderly. In this course, with the keyword of dealing with the elderly, students will learn a series of thesis writing processes such as selection of research theme, review of previous research, planning of research plan, experiment, and discussion. In addition, through writing a doctoral dissertation, students will learn about the conscience of scientists, their attitude toward research, original ideas, and how research should be conducted. The theme is summarized in the following three. 1. Research on motor function in the elderly 2. Research on cognitive function in the elderly 3. Research on QOL of the elderly

科目概要 Course Aims	*Motor Control Instrumentation Sciences* In the field of Motor Control Instrumentation Sciences, research spans from basic investigations to clinical applications, covering motor control, motor learning, and rehabilitation engineering. Specifically, basic research involving animal models of disease and simulated patients, as well as clinical research with actual patients, is conducted on topics such as postural control during movement, therapeutic learning, and rehabilitation robots. Researchers will present their findings at conferences and publish them in specialized journals within their respective fields, receiving guidance on paper preparation to facilitate the dissemination of information to society. YAMADA Kouji Based on macroscopic and histological knowledge and theories of musculoskeletal system, bone, ligaments, tendons, and joints, this course will focus on the functional analysis of the musculoskeletal system, beyond the observation of gross anatomy and structures, in relation to various issues arising during the rehabilitation process in clinical practice, including treatment-related challenges and prognosis assessment, with the aim of writing a doctoral dissertation. Further, the present invention is similarly carried out in the biological control field of neural control and humoral control. In this process, students learn the attitude toward research as a scientist through a series of doctoral dissertation creation processes, such as devising research themes, clarifying the progress of prior research, drafting research plans, conducting experiments, and studying. 1. Research from a preventive medical point of view applied to humans from basic research using disease model animals. 2. Structural analysis methods such as bone morphometry and biochemical analysis of humoral factors. 3. Research on biological control mechanism by humoral factors represented by myokines. TANABE Shigeo We will conduct research related to rehabilitation therapy science, especially rehabilitation engineering. Rehabilitation engineering is research field to develop practical devices and methods based on clinical problems and requests. The following are specific themes. 1. Studies on the rehabilitation robots 2. Studies on the development of motion analysis and treatment methods TAKEDA Kotaro Based on instrumentation engineering, rehabilitation engineering, neuroscience, and cognitive science, the following studies on biomedical measurement, clinical evaluation, and intervention will be conducted. 1. Studies on the scalp electroencephalogram and surface electromyogram 2. Studies on the clinical evaluation and database 3. Studies on motion analysis 4. Studies on motor imagery
到達目標 Objectives	1. Choose a research topic and search for relevant literature. 2. Determine the framework for promoting research, learn the research methods, and conduct. 3. Interpretant and consider the research results logically. 4. Write a doctoral thesis.

回数 Chapters	授業計画(各回のテーマ) Course Schedule (topic for each time)	担当教員 Instructor
1-4 (1st year)	Search for previous studies and related literature	Each instructor
5-10 (1st year)	Review of related literature	
11-15 (1st year)	Research planning	
16-18 (2nd year)	Pre-experiment	

19-20 (2nd year)	Preparation of documents to the epidemiology and clinical research ethics review board	
21-24 (2nd year)	Data measurement	
25-28 (2nd year)	Data review	
29-60 (2nd year)	Data measurement, write an academic paper and submit to a journal	
61-75 (3rd year)	Flow creation of the thesis	
76-90 (3rd year)	Preparation of a thesis	
長期履修 授業計画 Long-term study Class plan	Long-term students should discuss with their research supervisor and plan research schedule according to the period of study.	

評価法・基準 Grading Policies	Grading will be considered comprehensively based on the contents of academic conferences, academic papers (40%), and doctoral thesis (60%). However, participation in 2-field joint research seminars is mandatory.		
教科書 Text Book		教材・参考書 Reference Book	
オフィス アワー Office Hour	KANADA Yoshikiyo Building 8-1F-106 SAKURAI Hiroaki Building 8-1F-106 TERANISHI Toshio Building 8-7F-704 INAMOTO Yoko Building 8-7F-703 Monday, Wednesday, Friday 8:00-9:00 ONOGI Keiko Building 8-7F-708 YAMADA Kouji Building 8-7F-707 Monday, Wednesday 19:00-20:00 TANABE Shigeo Building 8-1F-112 Monday 12:10-13:00 TAKEDA Kotaro Nanakuri Memorial Hospital, E-mail us if you have any questions.	連絡先 Contact	
準備学習 Preparation of study	Students should actively pursue their own themes.	履修上の注意点 Notice for Students	