



คณะสหเวชศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

Faculty of Health Science,
Srinakharinwirot University



Course Descriptions

BSc (Physical Therapy)

1. General Education

1.1 Languages

SWU 111 Thai for Communication

A study of communication models and strategies. A practice in descriptive writing, summarizing, modifying and synthesizing and using language for communication in different situations, utilizing various learning processes.

SWU 112 Thai Literary Review

A study of thinking and teaching processes of knowledge and wisdom of the Thai language and Thai identity in literature through selected classic and contemporary Thai literature, prose and poetry, utilizing various learning processes.

SWU 121 English for Effective Communication I

Practice of English for effective communication in a changing world, including listening, speaking, reading, writing and vocabulary for daily use, utilizing various learning processes both inside and outside the classroom; training students to become independent learners, being able to communicate in different situations and to use language as a springboard for their further language study.

SWU 122 English for Effective Communication II

Practice of English for effective communication in changing world, including listening, speaking, reading, writing and vocabulary for daily use through various information technologies; training students to become independent learners, being able to use language to develop cooperation in learning, for the benefit of society and themselves.

SWU 123 English for International Communication I

Practice of basic English skills, listening, speaking, reading and writing and critical thinking, emphasizing English as an international language, utilizing various learning processes, both inside and outside the classroom. Includes application in daily life and for lifelong learning, resulting in students becoming valuable members of Thai and world communities.



SWU 124 English for International Communication II

Practice of basic English skills, listening, speaking, reading and writing and critical thinking to enhance communication skills and experience of English as an international language, including skills in presentation, utilizing various learning processes, both inside and outside the classroom, equipping students with language skills and learning skills to become lifelong learners.

SWU 131 French for Communication I

Practice of French for communication including listening, speaking, reading, writing and vocabulary for daily use, utilizing various learning processes, both inside and outside the classroom, and for further French study.

SWU 132 French for Communication II

Continuation of SWU 131 French for Communication I.

SWU 133 German for Communication I

Practice of German for communication including listening, speaking, reading, writing and vocabulary for daily use, utilizing various learning processes, both inside and outside the classroom, and for further German study.

SWU 134 German for Communication II

Continuation of SWU 133 German for Communication I

SWU 135 Chinese for Communication I

Practice of Chinese for communication including listening, speaking, reading, writing and vocabulary for daily use, utilizing various learning processes, both inside and outside the classroom, and for further Chinese study.

SWU 136 Chinese for Communication II

Continuation of SWU 135 Chinese for Communication I

SWU 137 Japanese for Communication I

Practice of Japanese for communication including listening, speaking, reading, writing and vocabulary for daily use, utilizing various learning processes, both inside and outside the classroom, and for further Japanese study.

SWU 138 Japanese for Communication II

Continuation of SWU 137 Japanese for Communication I

1.2 Science, Mathematics and Technology

SWU 141 Information Literacy Skills

A study of communication systems and processes. Developing skills in research and referencing with various software, and internet knowledge management, for lifelong study. Including practicing presentations using IT with the realization of ethics at the individual and community level, and a study of relevant laws.

SWU 142 Science for Life Quality Development and Environment

A study of concepts in science, applied science and technology and ecosystem for better understanding of the importance of harmonious cohabitation. Including the effects of the advancement of science and technology on the environment, society, and the economy, in order to instill the realization of the significance of the environment for better life quality and sustainable peace.

SWU 143 Alternative Energy

A study of the effects of energy consumption, issues of greenhouse effects and non-sustainable economy, the meaning and significance of alternative energy, the paradigm shift of energy management towards environment-friendliness, and for the sustainability of the community rather than economic goals.

SWU 144 Mathematics in Daily Life

A study of mathematics and statistics necessary for consumers, the art of mathematics and problem solving in daily life as a basis for reasoning in studying and living in societies.

SWU 145 Wellness and Healthy Lifestyle

A study of principles and concepts of wellness and health, the integration of the principles and lifestyle, with an emphasis on the enhancement of students' potential in physical development, life quality and proper lifestyle.

SWU 341 Physical Science, Laws of Nature, Energy and Spirit

A study of theories of the physics of nature, for example, Galileo, Newton, Einstein, quantum physics, the laws of thermodynamics, among others, to understand the power of nature and mind.



1.3 Liberal Arts

SWU 151 General Education for Human Development

A study of the significant meanings and values of general education in humanities, social science, science, and arts, with a focus on the development in awareness and communication, emotion and intellect, in order to become quality graduates who are able to analyze, synthesize and solve problems.

SWU 251 Man and Society

A study of fundamental knowledge of mankind and societies, both local and world societies, with a focus on the understanding of human behavior as models for self-improvement; better understanding of societies; developing responsibility, creativity, and morals; the appreciations of culture, art and civilization; developing common sense and consciousness in environmentally-friendly living in society; and the realization of the roles and responsibilities of citizens of the local and the world communities.

SWU 252 Aesthetics for Life

A study of aesthetics theories, providing experiences in aesthetics leading to the realization of the value of beauty necessary for life; and a study of various aspects of aesthetics including performing arts, music, and nature, with a focus on various learning processes, media and circumstances.

SWU 351 Personality Development

Personality development for ethical and balanced individual and social life, fostering Thai cultures in the globalized world, utilizing various learning processes.

SWU 352 Philosophy and Thinking Process

A study of principles and theories of both western and oriental philosophy, the development of philosophy involving life, society, nature and environment, towards a decent way of living.

SWU 353 Man, Reasoning and Ethics

A study of reasoning and ethics to enhance truth-seeking, reasoning, and good behavior, with a focus on oneself, others and their context, utilizing various learning processes.

SWU 354 Man and Peace

A study of principles of peace and conflict management in families, communities, and societies; concepts of peace in various religions, philosophies, beliefs, and cultures; ideas and practices of major intellectuals who are working for peace and world peace.

SWU 355 Buddhism

A study of wisdom and thinking processes in Buddhist teaching on the issues of ways of living and development, in their scientific, philosophical and religious aspects, as a guideline for moderate living.

SWU 356 Literature for Intellectual Powers

A critical study of notion, value and esthetics of literature in various genres for intellectual and imaginative power, and life force, leading to moderate living.

SWU 357 Art and Creativity

A study of imaginative and creative power, the basis of esthetics in various kinds of arts, resulting in creative lifestyle, through various learning methodologies and tools.

SWU 358 Music and Human Spirit

An exploration of a wide range of music from the early ages to the contemporary, in western and non-western cultures, including Thai folk music, through various media and learning processes.

SWU 361 History and Effects on Society

A study of Thai and world histories, which develop from human perception, histories which propel societies, including histories of politics, economics, and culture.

SWU 362 Man and Civilization

A study of the civilizations of eastern and western cultures in the early ages to the present, including the spreading, transferring and exchanging of civilization in various regions, resulting in the political, social, economic and cultural conditions of the present societies; and Thai culture as part of world culture.

SWU 363 Man and Politics

A study of the nature of human societies and politics, social organization, governmental organizations, political parties, political processes, political behaviors and dynamics, government administration, focusing on political systems and important laws, towards moderate daily living.

SWU 364 Economy in Globalization

A study of background knowledge in economics, the philosophy of sufficiency economics, the present state of economics in Thailand and across the world, trends that impact people's lives, and the roles of and relationships to economic organizations that have an effect on daily life.

SWU 365 Principles of Modern Management

A study of ideas and principles of management, theories of modern management, ideas relating to management of organizations, management of organization resources, issues of interest relating to trends in modern management, management of human resources, leadership, organizational development, and developing society to step forwards into peace and happiness.

SWU 366 Social Psychology

A study of foundational psychology relating to the biological basis of human behavior, societal behavior, underlying societal variables that influence the behavior and psychological state of humans, societal structure and processes, attitudes, societal perceptions, relationships between people, aggression, sexual behavior and gender roles, communication, propaganda, and methods to solve problems of conflict in society.

SWU 367 Legal Studies

A study of the evolution of law, the characteristics of law, and the relationship between law, morality and customs. Also the categorization, ranking and classification of law, and important laws that are essential to know for leading your life. This course emphasizes diversity in learning and communication.

SWU 371 Creativity, Innovation and Technology

Study, research and practice of the processes of developing creative ideas using various methods. The management of local wisdom for innovating community technologies that are relevant to agriculture, engineering, handicrafts, community business, community relations, and the environment. This course emphasizes diversity in learning and communication.

SWU 372 Local Wisdom

Study and research of local and community wisdom, wisdom that comes from processes of thinking and studying, development through action and interaction in the community, wisdom in living life with others and with the natural environment, and wisdom in finding value and true selfhood as a human. This course emphasizes diversity in learning and communication.

SWU 373 Man and Community

Study and research to develop the physical geography of the community, locality reflected in geography, specific characteristics and the merging of community relations in the context of geography, culture and ethnicity, on the basis of virtue, ethics and goodness. This course emphasizes diversity in learning and communication.

SWU 374 Ethical Careers for Community

Study, research and development of ethical careers in the community with the purpose of building robust ethical careers, establishing appreciation of the dignity of the community, ethical careers that honor the natural environment, peace, goodness, the arts, culture and the philosophy of sufficiency economics. This course emphasizes diversity in learning and communication.

SWU 375 Good Governance in Community Management

Study and research of the establishment and execution of good governance and management of the community on a foundation of correctness and the rule of law, transparency, trustworthiness, accountability, participation, and responsibility to role and duty, in order to develop the individual, family and community to enduring strength. This course emphasizes diversity in learning and communication.



2. Foundations of Physical Therapy Profession

2.1 Science

CH 100 General Chemistry

Stoichiometry; the structure of atoms, gasses, solids, liquids, and solutions; the balance of acids and alkali; foundational organic chemistry; the components of biomolecules; environmental chemistry.

CH 101 Principles of Chemistry

Prerequisite: CH 100 or by discretion of the Department of Chemistry, Faculty of Science.

Chemical bonding in the periodic table of elements and the properties of the elements; the representative elements, transition elements, and coordination compounds; chemical thermodynamics, chemical kinetics, electrochemistry, industrial chemistry and nuclear chemistry.

PY 101 Introductory Physics I

Vectors, force and movement; gravitational fields; momentum and energy; circular movement; particle system and rigid body mechanics; oscillatory motion; the characteristics of matter; fluid mechanics; sound waves; heat and thermodynamics.

PY 102 Introductory Physics II

Electrical fields and electrical interaction; magnetic fields and magnetic interaction; dynamic electromagnetic fields; DC current; AC current; electronics; light; the theory of relativity; quantum physics; nuclear physics.

2.2 Foundations of Physical Therapy

PX 101 Human Body System – Musculoskeletal System

A study of the structure and function of the human musculoskeletal system, incorporating foundational knowledge of anatomy and physiology. To be applied in physical therapy assessment and treatment.

PX 102 Human Body System – Cardiopulmonary System

A study of the structure, function and relationships of the cardiovascular and cardiopulmonary systems, incorporating foundational knowledge of anatomy, physiology, pathology, pathogenesis, and pathophysiology. To be applied in physical therapy assessment and treatment.

PX 201 Human Body System – Basic Human Body System

A study of the relationships between the basic structures and functions of the following systems: skin, digestion, excretion, endocrine and reproduction; incorporating foundational knowledge of anatomy, physiology and pathology of the aforementioned systems.

PX 202 Human Body System – Nervous System

A study of the structures, relationships and functions of the nervous system of the brain and spinal cord, the autonomic nervous system, neural pathways, and other elements of the nervous system; incorporating foundational knowledge of neuroanatomy, cellular neuroscience, neurophysiology, and neuropathology. To be applied in the further study of neurological physical therapy.

PX 203 Biomechanics and Kinesiology

Theories and principles of mechanics that apply to the human body; biomechanics of various joints in the body; studying electromyography to analyze muscle activity; analysis of gait and other movements.

PX 204 Physiology of Exercise

Theories about the mechanisms and physiological changes of the body during and after exercise; the effects of training on various body systems; factors affecting exercise and principles of physical fitness test.

PX 301 Pharmacology for Physical Therapy

A study of foundational principles, for use in clinical pharmacology, of: pharmacokinetics, pharmacodynamics, indications of drug use and drug interactions in patients receiving physical therapy, including other medications that have an impact on physical therapy treatment of the musculoskeletal system, nervous system, and cardiopulmonary system, emphasizing the effects of drug side effects and precautions of drug action.

PX 302 Clinical Psychology for Physical Therapy

A study of general psychology, behavior in various populations including normal, deviant, disabled, child, adult and elderly patients, as well as the management of patients.

2.3 Language Skills for the Physical Therapy Profession

PX 311 English for Professional Purposes I

Effectively developing English reading skills related to profession, including reading comprehension and summary of textbooks, articles and research.

PX 312 English for Professional Purposes II

Developing English listening and speaking skills, including everyday English, taking patient histories, and communicating while examining and treating patients.

PX 413 English for Professional Purposes III

Developing English writing skills for professional communication, including academic writing, patient reports, filling in forms, and writing abstracts, resumes and job application letters.

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3 Physical therapy

3.1 Electrotherapy and Movement Therapy

PX 121 Manual Therapy

Practicing hands-on treatment using various techniques based on the principles and methods of manual therapy, which represent universal expertise, both from Thailand and abroad, and applying manual therapy techniques to related disciplines for physical therapy treatment.

PX 221 Positioning, Transfer and Ambulation

Practicing positioning of the patient, training the patient to transfer and using wheelchairs and walking aids, including applying these principles in a way that suits their individual condition.

PX 222 Therapeutic Exercise I

Theory and practice related to the principles of body movement and exercise, using various equipment and techniques, in order to treat, protect and promote health, including increasing efficiency of movement as well as muscle strength, flexibility and endurance.

PX 223 Low and Medium Frequency Electrotherapy

A study of the characteristics and variables of low- and medium-frequency electric current using an electrical stimulator, the principles of stimulation, the physiological effects of electrical stimulation, electrodiagnosis, and electrical biofeedback, including application in physical therapy.

PX 224 Electromagnetic and Ultrasonic Therapy

A study of the origin, properties and physiological effects on the body of high-frequency electromagnetic waves, ultrasound and laser therapy which are used in physical therapy, and the application of this in physical therapy treatment.

PX 321 Mobilization and Manipulation Therapy

Prerequisite: PX 101 Human Body System – Musculoskeletal System

Performing assessment and treatment using mobilization and manipulation therapy of various joints of the body, including the shoulder, elbow, wrist, hip, knee and ankle, as well as spinal joints in the cervical, thoracic and lumbar regions, to guide the treatment of patients with limited movement of these joints.

PX 322 Therapeutic Exercise II

Application of theory and practice of therapeutic exercise techniques in treatment, health prevention, health promotion, and rehabilitation of various conditions; training in sensorimotor stimulation, increasing joint stability and hydrotherapy.

PX 421 Therapeutic Exercise III

A study of various modern forms of exercise for application in physical therapy; relaxation exercises, exercise to increase peripheral circulation; to promote health, and basic sports physical therapy.

3.2 Musculoskeletal Physical therapy

PX 131 Therapeutic Heat and Cold

A study of the physiological response of the body to heat and cold; indications, contraindications and precautions in treating with heat and cold; properties and specific characteristics of the equipment; giving superficial heat; applications in physical therapy.

PX 231 Physical Therapy Assessment in Orthopedic Conditions

Prerequisite: PX 101 Human Body System – Musculoskeletal System

Theories and principles of assessing patients before and after physical therapy. A study of physical examination in physical therapy and musculoskeletal physical examination, including correctly assessing and interpreting results.

PX 331 Physical Therapy in Musculoskeletal Conditions

Prerequisite: PX 231 Physical Therapy Assessment in Orthopedic Conditions.

A study of theories relating to conditions of the musculoskeletal system regarding: pathogenesis, signs and symptoms, medical treatment, critical thinking and decision-making in the clinic; physical therapy assessment and diagnosis; treatment planning; and physical therapy treatment for health promotion, prevention, and rehabilitation in the musculoskeletal condition.

PX 332 Ergonomics and Physical Therapy Application

A study of the relationship between people, work and the environment, including the role of the physical therapist in preventing or reducing injury and improving performance at work.

3.3 Neurological Physical therapy

PX 241 Physical Therapy Assessment in Neurological Conditions

Prerequisite: PX 202 Human Body System – Nervous System

The principles and practice of taking medical history, physical therapy assessment of neurological conditions, including studying the results of special neurological investigation.

PX 341 Physical Therapy in Neurological Conditions

Prerequisite: PX 241 Physical Therapy Assessment in Neurological Conditions.

Theories about pathogenesis, signs and symptoms, and medical treatment; practice of assessment and treatment planning; treatment, health promotion and prevention, and rehabilitation in physical therapy for neurological conditions.

PX 342 Physical Therapy in Pediatrics

Prerequisite: PX 241 Physical Therapy Assessment in Neurological Conditions.

A study of the development and growth of children, pathogenesis, signs and symptoms, and medical treatment and physical therapy treatment of diseases and abnormal conditions that are common in pediatric patients; practice of physical therapy assessment, treatment planning, treatment, health promotion, prevention, and rehabilitation, in pediatric patients with a variety of conditions.

3.4 Cardiopulmonary Physical therapy

PX 251 Physical Therapy Assessment in Cardiopulmonary Conditions

A study of the principles of physical therapy assessment in cardiopulmonary conditions, interpreting results, including laboratory results, and practice of physical therapy assessment, problem analysis, and treatment planning, for cardiopulmonary conditions.

PX 351 Physical Therapy in Cardiopulmonary Conditions

Prerequisite: PX 251 Physical Therapy Assessment in Cardiopulmonary Conditions.

Theories of pathogenesis, signs and symptoms, and medical treatment; practice of physical therapy assessment, treatment planning, treatment in health promotion, prevention, and rehabilitation, in cardiopulmonary conditions.

3.5 Physical Therapy in Other Conditions and in the Community

PX 461 Physical Therapy in Special Conditions

Theory and/or practice of treatment, rehabilitation, prevention and health promotion in physical therapy for pregnancy, giving birth, the elderly, psychiatric patients, metabolic syndromes, diabetes, cancer, conditions before and after breast removal surgery, burns and scolds, immunodeficiency, liver disease, chronic kidney disease, diseases of the blood, bone marrow transplantation and other conditions, including the dangers of smoking and the role of the physical therapist in cessation of smoking.

PX 462 Physical Therapy in Community Health

A study of various health problems in the community, applying physical therapy knowledge, and health communication, for health promotion, prevention and treatment of people in communities.



3.6 Physical Therapy Practice

PX 371 Clinical Physical Therapy I

Studying and practicing skills, medical records, taking medical histories, building a relationship with the patient, physical therapy assessment, writing reports, and presentation of patient information, in various conditions, under the supervision of teaching staff at the Department of Physical Therapy.

PX 372 Clinical Physical Therapy II

Practicing physical therapy skills, building a relationship with the patient, focusing principally on medical records, taking patient histories, and physical therapy assessment; identifying and analyzing problems, treatment plans, including providing basic treatment, report writing and presentation of patient information; in patients with various uncomplicated conditions, under the supervision of a physical therapy clinical instructor.

PX 373 Clinical Physical Therapy III

Developing physical therapy skills, building a relationship with the patient, focusing principally on medical records, taking patient histories, and physical therapy assessment; identifying and analyzing problems, treatment plans, including providing basic treatment, report writing and presentation of patient information in patients with more complicated conditions; under the supervision of a physical therapy clinical instructor.

PX 471 Clinical Physical Therapy IV

Practicing physical therapy skills, building a relationship with the patient, taking patient histories, physical therapy assessment; focusing principally on identifying and analyzing problems, and treatment plans; choosing appropriate treatment and performing it correctly; studying the fundamentals of advising the patient; report writing and presentation of patient information; in patients with more complicated conditions, under the supervision of a physical therapy clinical instructor.

PX 472 Clinical Physical Therapy V

Developing physical therapy skills, building a relationship with the patient, taking patient histories, physical therapy assessment; focusing principally on identifying and analyzing problems, and treatment plans; choosing appropriate treatment and performing it correctly; studying the fundamentals of advising the patient; skills in promoting health, report writing and presentation of patient information; in patients with more complicated conditions, under the supervision of a physical therapy clinical instructor.

PX 473 Clinical Physical Therapy VI

Developing physical therapy skills, building a relationship with the patient, taking patient histories, physical therapy assessment; identifying and analyzing problems; treatment plans; focusing principally on effective treatment, studying health promotion skills; giving advice that is appropriate to patient's context; report writing and presentation of patient information; in patients with complicated conditions, under the supervision of a physical therapy clinical instructor.

PX 474 Clinical Physical Therapy VII

Furthering physical therapy skills, building a relationship with the patient, taking patient histories, physical therapy assessment; identifying and analyzing problems; treatment plans; focusing principally on treatment that is effective and holistic, studying health promotion skills, giving advice that is appropriate to the patient's context, report writing and presentation of patient information; in patients with complicated conditions; studying both the systems of working and the role of physical therapy and other related institutions; under the supervision of a physical therapy clinical instructor.

PX 475 Clinical Physical Therapy VIII

Furthering physical therapy skills; building a relationship with the patient, taking patient histories, physical therapy assessment; identifying and analyzing problems; treatment plans; focusing principally on treatment that is effective and holistic; health promotion skills; giving advice that is appropriate to the patient's context; report writing and presentation of patient information; in patients with complicated conditions; studying both the systems of working and the role of physical therapy and other institutions, working together with these institutions with positive, helpful interpersonal relationships; under the supervision of a physical therapy clinical instructor.

Note: The courses Clinical Physical Therapy 2-8 are learning experiences to enhance professional skills through practicing skills with a diverse group of clients both in terms of lifestyle and in local health systems with different contexts.

3.7 Management, Ethics and Research in Physical Therapy

PX 381 Physical Therapy Professional Ethics

A study of physical therapy professional ethics and laws related to the profession.

PX 481 Research in Physical Therapy

A study of various research methods, foundational biostatistics, research planning, data analysis, critiquing research relevant to physical therapy, presenting the structure of research, under the supervision of teachers, and presenting research of various forms.

PX 482 Public Health and Administration

A study of public health systems in Thailand, foundational epidemiology, basic health economics, general principles of management, as well as management of projects and physical therapy clinics.

Graduate Courses

Compulsory Courses

PX 501 Research Methodology and Biostatistics for Health Research 1

A study of research methodology and biostatistics for healthscience including research ethics, designs, methodology, research hypotheses or problems, purpose, significance, scope, planning and design, principles of research in epidemiology, biostatistics, information management, quantitative and qualitative analysis research, the application of biostatistics in research, and the use of commercial statistics programs.

PX 502 Evidence-Based Practice

A study of research papers which can be referenced through systematic literature review, information searching, criteria for reference selection, research evaluation and quality assessment, proper statistical analysis, and the application to effective clinical practice.

PX 503 Instruments for Health Research

A study of principles and processes of research instrument development, the use of health research instruments, movement analysis, quality assurance instruments: surveys and interviews, instrument selection, instrument preparation, reliability and validity of data collecting instruments, information management and analysis, including a study of samples and the application of various research instruments.

PX 504 Research Methodology and Biostatistics for Health Research 2

A seminar on research in physical therapy and related health science through critical reading of research papers, academic discussion, principle and rationale of study, results and research interpretation, in order to apply them in clinical practice and to guide research topic and methodology for theses. This seminar class emphasizes concept and theory presentations deriving from literature review, comparison of previous studies, research design, research methodology, research planning and outlining for theses.

PX 505 Clinical Practice

An application of evidence-based knowledge in clinical practice in order to develop specific skill and experience by the development of thinking processes, critical reasoning, accurate physical therapy examination, the development of physical therapy diagnosis, problem identification, problem analysis, the health promotion, prevention, and treatment of patients with effective physical therapy techniques, including writing patient reports that are systematically analyzed.

PX 601 Seminar in Physical Therapy Research

A seminar on current topics in physical therapy research, such as techniques on data analysis, the development of data collection tools, and data analysis and synthesis. The topics covered in this class are the ones that are not covered in other classes. Interesting topics will be analyzed and applied in dissertation research.

PX 701 Seminar in Physical Therapy

Study, analysis, critical appraisal of theories and current research studies in physical therapy, emphasizing on presenting novel ideas to improve academic knowledge, for design research study to solve clinical problem or enhance physical therapy practice.

PX 702 Systematic Review and Meta analysis

A study of research papers which can be referenced through systematic literature review, criteria for reference selection, research evaluation and quality assessment for synthesizing effective evidence-based practice.

PX 704 Research Methodology and Biostatistics for Advanced Health Research

A seminar on research in physical therapy and related health science through critical reading of research papers, academic discussion, principle and rationale of study, results and research interpretation using advanced biostatistics, in order to apply them in clinical practice and to guide research topic and methodology for theses. This seminar class emphasizes concept and theory presentations deriving from literature review, comparison of previous studies, research design, research methodology, research planning and outlining for theses.

PX 705 Applied Clinical Research for Physical Therapy Practice

Integration of research, evidence-based practice and other related topics, clinical reasoning, problem identification, problem analysis to develop specific clinical skills and experience, the development of physical therapy diagnosis, the health promotion, prevention, and treatment of patients with effective physical therapy techniques, including writing patient reports that are systematically analyzed.

Major Courses

PX 511 Sport Physical Therapy

A study and practice of current theories and concepts in sport physical therapy. An application of appropriate techniques for the individual athlete. A practice of physical therapy during a practice session or a competition including taking notes and presenting the progression of the treatment, evaluation criteria for discharging athletes back into a competition. A study of professional regulations for registered sport physical therapists; national and international sport regulations involving the practice of physical therapy.

PX 512 Manual and Movement Therapy

A study of developments in manual and movement therapy and a study of newly developed and internationally accepted techniques, including the development of the clinical reasoning in the physical assessment and treatment; and the progression of the research in the field.

PX 513 Molecular Biology for Physical Therapy

A study of biology of the body, including molecules, cells, genetics, control of gene expression, control of cell communication, cell reaction after pathology, the biology of stem cells, the development of stem cells into various tissues, including the application of this knowledge for physical therapy treatment.

PX514 Clinical Exercise Physiology

A study of the progression of research and theory involving physiological response and adaptation to exercise under normal and abnormal conditions of the musculoskeletal system, nervous system, cardiovascular system, respiratory system, endocrine system, immune system; pathophysiology of these systems, and physical fitness testing. To be applied in physical therapy.

PX 611 Clinical Biomechanics

A study of advanced biomechanics involving muscle tissues, bones, cartilage, nerves and connective tissues used in movement; a study of the operation of neuromuscular systems in various movements; movement analysis, including biomechanics of movements of individuals who have abnormal physical conditions, and current developments in biomechanics that are relevant to physical therapy.

PX 612 Motor Control and Motor Learning

A study of motor control processes, development and research involving theories of motor control; the integration and the application of motor control theory; motor learning and the development of motor capability, including the application of these theories in motor training of people at all ages, both healthy and unhealthy.

PX 613 Advanced Neurological Physical Therapy

A study of the development and changes in nervous system resulting from pathology, learning, or aging, which is the basis in the treatment of neurological patients; the development of critical reasoning in problem analysis and setting treatment goals; the integration and the development of skills in physical therapy for advanced neurological patients, including the treatment of patients with balance problems resulting from pathology of the inner ear.



PX 614 Advanced Cardiovascular and Respiratory Physical Therapy

A study of the advancement of research and theories of physical therapy assessment, treatment, rehabilitation and the prevention of recurrence in the cardiovascular and respiratory problems in normal and critical conditions, the application of knowledge gained from empirical research in order to develop care provision, use of tools in following-up changes in physiology of the cardiovascular and respiratory system, the design and management of exercise programs for rehabilitation.

Elective Courses

PX 621 Selected Topics in Physical Therapy Research

A one-on-one in-depth study of topics of interest to students, including research design, statistics, evaluation or measurement in physical therapy, and the advancement of research methodology, under the supervision of the instructors who are experienced in these specific topics.

Thesis

PX 691 Master's Thesis

A research-based thesis course, comprising a comprehensive, individual piece of research on a physical therapy or health science topic, a proposal presentation, a report of the progression of the research work, a thesis defense, and an original research paper for publication with systematic references, under the supervision of a thesis-supervising committee.

PX 791 Doctoral Thesis

A research-based thesis course, comprising a comprehensive, individual piece of research on a physical therapy or health science topic, a proposal presentation, a report of the progression of the research work, a thesis defense, and an original research paper for publication with systematic references, under the supervision of a thesis-supervising committee.



63 Moo 7, Rangsit-Nakhon Nayok Highway,
 Tambon Ongkharak, Amphur Ongkharak
 Nakhon Nayok 26120
 THAILAND

63 หมู่ 7 ถ.รังสิต-นครนายก

ต.องครักษ์ อ.องครักษ์

จ.นครนายก 26120

Tel. 02-649-5000 ต่อ 2253-4

02-649-5447

Fax: 02-649-5450

<http://healthsci.swu.ac.th>