

Code	10252		
Class name	Exercise Physiology		
Semester	2nd	Lecture target	3
Unit Classification	Elective	Unit count	2
Charge teacher	Okano Ryosuke		
Category	Professional education subject		
Class style	Lecture		
Class time	Fri/3		
NO.	Cb22147w		

Professional career-experienced <input type="checkbox"/> a course taught by a teacher with practical experience On practical contents related to class
Languag <input checked="" type="checkbox"/> using languages other than Japanese
Active learning elements <input type="checkbox"/> problem-solving-learning in cooperation with external organizations based on agreements <input type="checkbox"/> discussion,debate <input checked="" type="checkbox"/> group work <input type="checkbox"/> presentation <input type="checkbox"/> practical training,fieldwork

Class outline,goal
The aim of this course is to help students acquire the basic knowledge of exercise physiology ,the method for improvement of msucle strength, power,endurance, the method of recovery from fatigue, the growth and development and some others. This course is the subject for the teaching profession of physical education in junior high and high schoool.
Class plan
1 Introduction, Fundamental knowledge of exercise physiology1 Pulmonary function during exercise 2 Fundamental kowledge of exercise physiology2 Circulatory function and blood during exercise 3 Fundamental knowledge of exercise physiology3 Muscle and nerve function during exercise 4 Fundamental knowledge of exercise physiology4 Energy output process during exercise 5 Physiology of muscle strength and increased power output 1 ATP, Mechanism of muscle contraction,Resistance training and Speed training 6 Physiology of muscle strength and increased power output 2 Type of muscle fiver,Muscle fiver composition,Heridity,Co-contraction,Reciprocal innervation, Body shape and power flow, and spring

7 Physiology of muscle strength and increased power output 3 Physiological and psychological limit during muscle exertion, Muscle soreness, Training effect, Improvement of nerve system and Muscle hypertrophy

8 Physiology of improvement of endurance and recovery from fatigue1 Muscle fatigue, CPK, LDH, Hydrogen ion, Histamine, Endurance training, Super compensation

9 Physiology of improvement of endurance and recovery from fatigue2 High altitude training, Conditioning, Lactic Acid, LT and OBLA

10 Physiology of improvement of endurance and recovery from fatigue3 Over-training, Burnout Syndrome, Over-use syndrome, Training effect, Sports injury

11 Growth and development and training1 Scammon's growth curve, PHV, Adequate training for elementary, junior high and high school student, Pre-golden age, Golden age

12 Growth and development and training2 Trainability of the elderly, Some cautions in physical training, Sports physiology in masters, some cautions in training of female, Amenorrhea, Fatigue fracture, and anemia

13 Physiology of body building and nutrition intake1 Body fat ratio and weight loss, Weight cycling, Meal and sports performance

14 Physiology of body building and nutrition intake2 Sports and water intake, Supplement, Doping and Lifestyle-related disease of children

15 Heridity and qualities, Effects of warming-up and cooling-down, Gene and sports

No final exam

Grading method

Grading will be decided based on final report and quiz of each class

Assigned books

Related document will be distributed at each class.

Classroom equipment

Video equipment (using video or DVD)

Advice on preparation and review

Check lecture contents at each class and read the references and documents of each class.

Class rules

You must refrain from speaking privately and using your smart phone during lecture.

Grading Criteria

Your final grade will be calculated according to the following process: Final report(95%) and quiz of each class(5%).

Feedback method

The submissions will be checked and returned them with some comments.

Note
Late will be severely prohibited. You must refrain from putting your smart phone on your desk.
Office hour
The 2nd period on Friday
Improvements from the results of the previous year's class evaluation questionnaire
Students will be guided to take much more time of preparation and review.