

EXERCISE PHYSIOLOGY (EXP)

Subject-area course lists indicate courses currently active for offering at the University of Louisville. Not all courses are scheduled in any given academic term. For class offerings in a specific semester, refer to the Schedule of Classes (https://csprd.louisville.edu/psp/ps_class/EMPLOYEE/PSFT_CS/c/COMMUNITY_ACCESS.CLASS_SEARCH.x/?state=62dab551a0d600a5e8237359c50704e59007&duo_code=sjUx20STj21aWVEq3Z1YD1H0f88N0)

500-level courses generally are included in both the undergraduate- and graduate-level course listings; however, specific course/section offerings may vary between semesters. Students are responsible for ensuring that they enroll in courses that are applicable to their particular academic programs.

Course Fees

Some courses may carry fees beyond the standard tuition costs to cover additional support or materials. Program-, subject- and course-specific fee information can be found on the Office of the Bursar website (<https://louisville.edu/bursar/tuitionfee/university-fees/>).

EXP 501. Applied Exercise Physiology 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): Consent of instructor.

Description: Selective review of the pertinent areas of basic physiology and the application of this knowledge to exercise conditions. Consists of both lecture and laboratory format.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 502. Principles of Exercise Testing and Prescription 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): EXP 501 or consent of instructor.

Description: Effects of exercise to prevent coronary heart disease and atherosclerosis; specific effects of exercise on the established risk factors. Exercise as a rehabilitative measure in heart attack recovery.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 503. Clinical Exercise Physiology 3 Units

Term Typically Offered: Fall, Spring

Prerequisite(s): Admission into the Exercise Physiology MS Program; or Consent of Instructor.

Description: This course provides students with in-depth content regarding the physiology of exercise specifically related to clinical populations.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 600. Exercise Biochemistry 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): EXP 501 and EXP 605 or consent of instructor.

Description: Effects of physical activities and work-related stress on the human organism. Includes energy liberation, circulation and respiration, physical work capacity, physical training, energy cost of various activities, nutrition and performance, temperature regulation, factors affecting performance and fitness, physiology of various sport activities. Laboratory demonstrations and projects and discussion of current literature. Spring.

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EXP 601. Laboratory Methods in Exercise Physiology 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): Consent of instructor Basic laboratory techniques in Exercise Physiology will be covered, including: oxygen consumption, strength measurement, body composition, etc.

Fee: An additional \$95.00 is charged for this course.

Description: General concepts of data collection including validity and reliability will be emphasized. Scientific writing skills will be developed through the use of lab reports. Experimental design and analysis will be briefly discussed. Fall.

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EXP 602. Biochemistry of Exercise 3 Units

Term Typically Offered: Spring Only

Prerequisite(s): EXP 600 or consent of instructor.

Description: Examination of nutritional, energetic and metabolic aspects of exercise. Emphasis on various biochemical control mechanisms that function during exercise and biochemical adaptations that occur through exercise training. Spring.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 603. Seminar in Exercise Physiology 3 Units

Description: Reviews, presentations and discussions of current topics in exercise physiology.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 604. Advanced Topics in Exercise Physiology 1-3 Units

Term Typically Offered: Fall Only

Prerequisite(s): EXP 600 or consent of instructor.

Description: Independent study under the guidance of a selected faculty member.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 605. Human Physiology 3 Units

Term Typically Offered: Fall Only

Prerequisite(s): Consent of instructor.

Description: Fundamental mechanisms of human physiology and study of coordinated body functions. Emphasis on neuromuscular, circulatory, respiratory and endocrine systems. Fall.

For class offerings for a specific term, refer to the Schedule of Classes (<http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm>)

EXP 606. Practicum in Exercise Physiology 3 Units Term Typically Offered: Fall Only Prerequisite(s): EXP 605, EXP 601, HSS 604. Description: This course is designed to provide an immersive and comprehensive experience for students seeking advanced knowledge and practical skills in the field of exercise physiology. Integrating theoretical concepts with real-world applications, the course focuses on case study presentations, clinical immersion experiences, and research activities to foster a deep understanding of exercise physiology principles. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)	EXP 610. Periodization 3 Units Term Typically Offered: Fall, Spring, Summer Prerequisite(s): Graduate Standing or Consent of Instructor This course provides an in-depth exploration of the theory of periodization, practical concepts, and periodization methodologies in the context of strength and conditioning programming. Description: Students will examine the theoretical principles, historical development, and practical applications of periodization models to systematically plan and optimize training adaptations, enhance athletic performance, and prevent overtraining and injury. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)
EXP 607. Neuromuscular Exercise Physiology 3 Units Term Typically Offered: Fall, Spring Prerequisite(s): EXP 605 or consent of instructor This course provides an in-depth examination of neuromuscular physiology with a focus on clinical exercise applications. Description: Students will explore the structure and function of the neuromuscular system, understanding its critical role in the control of movement and exercise. The curriculum emphasizes bioenergetics, muscle plasticity, and the neural mechanisms that regulate exercise. Key topics include the acute neuromuscular responses to physical activity, chronic adaptations to various forms of exercise training, and the neuromuscular adaptations to different physiological and pathological stimuli. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)	EXP 611. Advanced Cardiorespiratory Physiology with ECG 3 Units Term Typically Offered: Fall, Spring Prerequisite(s): Admission into the Exercise Physiology MS program; or Consent of Instructor. Description: Course delivers an in-depth examination of the pathophysiology of cardiovascular and pulmonary diseased states during resting conditions and their effects on the exercise response. The mechanical and electrical properties of the heart are explored through the interpretation of ECG signals including rate, rhythm, axis, hypertrophy and infarction. Myocardial oxygen consumption, pressure-volume loops, arteriovenous oxygen differences, and the effects of cardiac pharmacology are also reviewed. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)
EXP 608. Strength and Power Programming 3 Units Term Typically Offered: Fall, Spring, Summer Prerequisite(s): Graduate Standing or Consent of Instructor This course focuses on the principles and methodologies of strength and power programming for athletic performance enhancement. Description: Students will explore the physiological adaptations underlying strength and power development and learn how to design evidence-based training programs to optimize muscular strength, power output, and athletic performance across different sports. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)	EXP 620. Exercise Physiology Internship 3-6 Units Term Typically Offered: Fall, Spring, Summer Prerequisite(s): Admission into the Exercise Physiology or Human Performance MS programs; or consent of Instructor. Description: Experience in exercise testing, prescription and leadership are available for cardiac rehabilitation, elderly, pulmonary, orthopedic, sports performance, and other special populations as well as healthy individuals. Course Attribute(s): CBL - This course includes Community-Based Learning (CBL). Students will engage in a community experience or project with an external partner in order to enhance understanding and application of academic content.
EXP 609. Speed and Conditioning Programming 3 Units Term Typically Offered: Fall, Spring, Summer Prerequisite(s): Graduate Standing or Consent of Instructor This course focuses on the principles and methodologies of speed and conditioning programming for athletic performance enhancement. Description: Students will explore the physiological adaptations underlying speed and conditioning development and learn how to design evidence-based training programs to optimize speed, agility, and conditioning across various sports and populations. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)	For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm) EXP 699. Thesis 1-6 Units Grading Basis: Pass/Fail Prerequisite(s): Consent of advisor. Description: Thesis hours. Note: Pass/Fail. For class offerings for a specific term, refer to the Schedule of Classes (http://htmlaccess.louisville.edu/classSchedule/setupSearchClassSchedule.cfm)