

EXERCISE SCIENCE AND SPORT (ESS)

ESS 515 PE in Pre Elem Mid School	3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 517 Teaching College Phys Ed	3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 542 Strength and Cond	3 Credit hours		
Delivery of strength and conditioning principles related to musculoskeletal movement and the utilization of energy systems for the development and administration of sport-based exercise programs.			
Pre-req: ESS 543 (may be taken concurrently) with a minimum grade of D.			
Concurrent PR: ESS 543			
Grade Mode: Normal Grading Mode			
ESS 543 Strength and Cond Lab	1 Credit hour		
Direct application of strength and conditioning principles in the development and administration of sport-based exercise programs. Emphasis will be on the training and demonstration of proper communication and technique regarding the components of flexibility, resistance training, power-lifting, Olympic weightlifting, and speed and agility.			
Pre-req: ESS 542 (may be taken concurrently) with a minimum grade of D.			
Concurrent PR: ESS 542			
Grade Mode: Normal Grading Mode			
ESS 560 Professional Development	1-4 Credit hours		
Grade Mode: Credit/No Credit Grade Only			
ESS 561 Professional Development	1-4 Credit hours		
Grade Mode: Credit/No Credit Grade Only			
ESS 562 Professional Development	1-4 Credit hours		
Grade Mode: Credit/No Credit Grade Only			
ESS 563 Professional Development	1-4 Credit hours		
Grade Mode: Credit/No Credit Grade Only			
ESS 564 Professional Development	1-4 Credit hours		
Grade Mode: Credit/No Credit Grade Only			
ESS 569 Curriculum Development PE	3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 576 Theo Prac Aspect Coaching	3 Credit hours		
An in depth study of the principles and problems of coaching.			
Grade Mode: Normal Grading Mode			
ESS 578 Exercise Metabolism	3 Credit hours		
Addresses the principles of sport nutrition and its effects on physiological systems, body composition, and human exercise performance.			
Grade Mode: Normal Grading Mode			
ESS 580 Special Topics	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 581 Special Topics	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 582 Special Topics	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 583 Special Topics	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 585 Independent Study	1-4 Credit hours		
Attributes: No Textbook Required			
Grade Mode: Normal Grading Mode			
ESS 586 Independent Study	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 587 Independent Study	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 588 Independent Study	1-4 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 591 Worskhop in Physical Ed	1-3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 592 Workshop in Physical Ed	1-3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 593 Workshop in Physical Ed	1-3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 594 Workshop in Physical Ed	1-3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 600 Adv. Readings in Sports Ethics	3 Credit hours		
A critical analysis of and engagement with leading ethical thinking as applied to sport.			
Grade Mode: Normal Grading Mode			
ESS 601 Adv Exercise Testing	3 Credit hours		
Exercise testing techniques presented to determine the biological responses to exercise stress and to investigate the physiological limitations to human performance as it relates to disease and/or sport performance.			
Grade Mode: Normal Grading Mode			
ESS 608 Motor Learning & Perform	3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 610 Phys Growth & Motor Devel	3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 621 Adv Exercise Physiology I	3 Credit hours		
Topics would include bioenergetics, integration of metabolism, metabolic response to exercise, neuroendocrine control of metabolism during exercise, cardiovascular control and adaptation during exercise and respiratory control and adaptation during exercise.			
Grade Mode: Normal Grading Mode			
ESS 622 PE for Atypical Individ	3 Credit hours		
Grade Mode: Normal Grading Mode			
ESS 623 Adv Ex Phys II	3 Credit hours		
Addresses neuromuscular plasticity and physiological adaptations to environmental stimuli during exercise.			
Grade Mode: Normal Grading Mode			
ESS 626 Hist & Phil PE & Sports	3 Credit hours		
An investigation of historical events, political and social climates, and personalities as well as philosophies which have influenced physical education and sport from early civilizations to the present.			
Grade Mode: Normal Grading Mode			

ESS 631 Perform Tech & Analysis	3 Credit hours	ESS 654 Contemp & Compar Phys Ed	3 Credit hours
Analysis of lead-up, intermediate and advanced techniques of a selected team, individual or dual sports. Emphasis given to mechanics of performance psychological stress components, psychological factors, strategies and teaching/coaching methodology.		A study of objectives, methods, personnel, facilities, and program uniqueness of the physical education of selected nations and world regions. National sport programs, international sport programs and competition, and international professional organizations are considered.	
Grade Mode: Normal Grading Mode		Grade Mode: Normal Grading Mode	
ESS 632 Perform Tech & Analysis	3 Credit hours	ESS 660 Internship	3-6 Credit hours
Analysis of lead-up, intermediate and advanced techniques of a selected team, individual or dual sports. Emphasis given to mechanics of performance psychological stress components, psychological factors, strategies and teaching/coaching methodology.		Attributes: No Textbook Required	
Grade Mode: Normal Grading Mode		Grade Mode: Normal Grading Mode	
ESS 633 Perform Tech & Analysis	3 Credit hours	ESS 665 Adv Test & Measure Phy Ed	3 Credit hours
Analysis of lead-up, intermediate and advanced techniques of a selected team, individual or dual sports. Emphasis given to mechanics of performance psychological stress components, psychological factors, strategies and teaching/coaching methodology.		Grade Mode: Normal Grading Mode	
Grade Mode: Normal Grading Mode		ESS 670 Research Meth in Kinesiology	3 Credit hours
ESS 634 Perform Tech & Analysis	3 Credit hours	An examination of experimental research design, laboratory methods, construction of instruments, execution of research, and presentation of research papers with an emphasis on science.	
Analysis of lead-up, intermediate and advanced techniques of a selected team, individual or dual sports. Emphasis given to mechanics of performance psychological stress components, psychological factors, strategies and teaching/coaching methodology.		Grade Mode: Normal Grading Mode	
Grade Mode: Normal Grading Mode		ESS 681 Thesis	1-6 Credit hours
ESS 636 Structural Kinesiology	3 Credit hours	Attributes: No Textbook Required	
Instruction and laboratory experiences involving musculoskeletal anatomy and biomechanics as applied to human movement.		Grade Mode: Normal Grading Mode	
Grade Mode: Normal Grading Mode		ESS 682 Prev & Rehab Physiology	3 Credit hours
ESS 641 Theor/Factor Ath Perform	3 Credit hours	An examination of experimental research design, laboratory methods, construction of instruments, execution of research, and presentation of research papers with an emphasis on science.	
Grade Mode: Normal Grading Mode		Grade Mode: Normal Grading Mode	
ESS 642 Devise Train & Cond Prog	3 Credit hours	ESS 683 Cardiovascular Assessment	3 Credit hours
Application of neuromuscular and physiological knowledge to the examination of the administration and content of existing exercise programs as well as the development of new programs.		Considers cardiovascular assessment strategies, including EKG interpretation, related medical profile variables, patient/client/athlete screening and risk stratification.	
Grade Mode: Normal Grading Mode		Grade Mode: Normal Grading Mode	
ESS 644 Cardio Exer Physiol	3 Credit hours	ESS 685 Admin Prev Rehab Med Prog	3 Credit hours
Detailed study of the anatomy and physiology of the cardiovascular system and its response to acute and chronic exercise.		Grade Mode: Normal Grading Mode	
Pre-req: ESS 621.		ESS 686 Behav Asp Well Dis Rehab	3 Credit hours
Grade Mode: Normal Grading Mode		Grade Mode: Normal Grading Mode	
ESS 645 Respir Exer Physiol	3 Credit hours	ESS 687 Cardiac Life Support	3 Credit hours
Detailed study of the anatomy and physiology of the respiratory system and its response to acute and chronic exercise.		Grade Mode: Normal Grading Mode	
Pre-req: ESS 621 and ESS 623 and ESS 670.			
Grade Mode: Normal Grading Mode			
ESS 646 Neuro Exer Physiol/Plas	3 Credit hours		
This course is a detailed study of the structure and function of the neuromuscular system along with the etiology and functional consequences of numerous neuromuscular diseases.			
Pre-req: ESS 621 and ESS 623 and ESS 670.			
Grade Mode: Normal Grading Mode			
ESS 651 Mech Analysis Motor Skill	3 Credit hours		
Analysis of motor skills through the application of the principles of physics.			
Grade Mode: Normal Grading Mode			