Domain I	Health and Fitness Assessment		PE 350 Exercise Physiology	PE 400 Exercise Testing and Perscription	PE 450 Clinical Exercise Physiology	PE 454 Biomechanics	PE 455 ECG and Clinical Stress Testing	PE 395 Practicum	PE 367 Health and Human Performance	PE 354 Prevention and Care of Athletic Injuries	NUTR 315 Human Nutrition	NUTR 225 Nutrition for Exercise and Sport	NURS 323 Pathophys	NURS 201 Medical Terminology	HNS 494 Internship	HNS 490 Seminar	HNS 380 Professional Development	HLTH 479 Health Promotion	HLTH 445 Epidemiology	HLTH 205 First Aid and CPR	CHRD 475 Wellness Counseling	BIOL 325 Human Physiology	BIOL 221 Anatomy
			Meendering	VanGuilder	Weidauer	Bowser	VanGuilder	Kirby	Daughters	Brown	Droke	Vukovich			Kirby	Perry	Kirby	Kirby		VanDame			
A		**Implement assessment protocols and pre-participation health screening procedures to maximize participant safety and minimize risk.**																					
I.A.1.a	Knowledge of:	pre-activity screening procedures and tools that provide accurate information about the individual's health/medical history, current medical conditions, risk factors, sign/symptoms of disease, current physical activity habits, and medications.		×	x																		
I.A.1.b		the key components included in informed consent and health/medical history.		×																			
I.A.1.c		the limitations of informed consent and health/medical history.		×																			
B		**Determine participant's readiness to take part in a health-related physical fitness assessment and exercise program.**																					
I.B.1.a	Knowledge of:	Risk factor thresholds for ACSM risk stratification including genetic and lifestyle factors related to the development of CVD.		×	x																		
I.B.1.b		the major signs or symptoms suggestive of cardiovascular, pulmonary and metabolic disease.		×	x																		
I.B.1.c		cardiovascular risk factors or conditions that may require consultation with medical personnel prior to exercise testing or training (e.g., inappropriate changes in resting heart rate and/or blood pressure, new onset discomfort in chest, neck, shoulder, or arm, changes in the pattern of discomfort during rest or exercise, fainting, dizzy spells, claudication).		×	x																		
I.B.1.d		the pulmonary risk factors or conditions than may require consultation with medical personnel prior to exercise testing or training (e.g., asthma, exercise-induced asthma/bronchospasm, and extreme breathlessness at rest or during exercise, chronic bronchitis, emphysema).		×	x																		
I.B.1.e		the metabolic risk factors or conditions than may require consultation with medical personnel prior to exercise testing or training (e.g., obesity, metabolic syndrome, diabetes or glucose intolerance, hypoglycemia).		×	x																		
I.B.1.f		he musculoskeletal risk factors or conditions than may require consultation with medical personnel prior to exercise testing or training (e.g., acute or chronic pain, osteoarthritis, rheumatoid arthritis, osteoporosis, inflammation/pain, low back pain).			x																		
I.B.1.g		ACSM risk stratification categories and their implications for medical clearance before administration of an exercise test or participation in an exercise program.		×	x																		
I.B.1.h		risk factors that may be favorably modified by physical activity habits.	x	×	x	x																	

I.B.1.i		medical terminology including, but not limited to, total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), triglycerides, impaired fasting glucose, impaired glucose tolerance, hypertension, atherosclerosis, myocardial infarction, dyspnea, tachycardia, claudication, syncope and ischemia.	x		x																		
I.B.1.j		recommended plasma cholesterol levels for adults based on National Cholesterol Education Program/ATP Guidelines.		×	x		×																
I.B.1.k		recommended blood pressure levels for adults based on National High Blood Pressure Education Program Guidelines.		×	x																		
I.B.1.l		medical supervision recommendations for cardiorespiratory fitness testing.		×	x		×																
I.B.1.m		he components of a health-history questionnaire (e.g., past and current medical history, family history of cardiac disease, orthopedic limitations, prescribed medications, activity patterns, nutritional habits, stress and anxiety levels, and smoking and alcohol use).		×	x																		
I.B.2.a	Skills in:	the risk stratification of participants using CVD risk factor thresholds, major signs or symptoms suggestive of cardiovascular, pulmonary, or metabolic disease, and/or the presence of known cardiovascular, pulmonary, and metabolic disease status.		×	x																		
I.B.2.b		reviewing pre-activity screening documents to determine the need for medical clearance prior to exercise and to select appropriate physical fitness assessment protocols.		×	x																		
C		**Select and prepare physical fitness assessments for healthy participants and those with controlled disease.**																					
I.C.1.a	Knowledge of:	the physiological basis of the major components of physical fitness: cardiorespiratory fitness, body composition, flexibility, muscular strength, and muscular endurance.		×											x								
I.C.1.b		selecting the most appropriate testing protocols for each participant based on preliminary screening data.		×	x																		
I.C.1.c		calibration techniques and proper use of fitness testing equipment.		×																			
I.C.1.d		the purpose and procedures of fitness testing protocols for the components of health related fitness.		×	x																		
I.C.1.e		test termination criteria and proper procedures to be followed after discontinuing health fitness tests.		×	x																		
I.C.1.f		fitness assessment sequencing.		x																			
I.C.1.g		the effects of common medications and substances on exercise testing (e.g., antianginals, antihypertensives, antiarrhythmics, bronchodilators, hypoglycemics, psychotropics, alcohol, diet pills, cold tablets, caffeine, nicotine).			x																		
I.C.1.h		the physiologic and metabolic responses to exercise testing associated with chronic diseases and conditions (e.g., heart disease, hypertension, diabetes mellitus, obesity, pulmonary disease).			x																		

I.C.2.a	Skills in:	analyzing and interpreting information obtained from assessment of the components of health related fitness.		x											x								
I.C.2.b		modifying protocols and procedures for testing children, adolescents, older adults and individuals with special considerations.			x																		
D		**Conduct and interpret cardiorespiratory fitness assessments.**																					
I.D.1.a	Knowledge of:	common submaximal and maximal cardiorespiratory fitness assessment protocols.		x																			
I.D.1.b		blood pressure measurement techniques.		x																			
I.D.1.c		Korotkoff sounds for determining systolic and diastolic blood pressure.		x																			
I.D.1.d		the blood pressure response to exercise.	x	x	x		x																
I.D.1.e		techniques of measuring heart rate and heart rate response to exercise.		x																			
I.D.1.f		the rating of perceived exertion (RPE).	x	x																			
I.D.1.g		heart rate, blood pressure and RPE monitoring techniques before, during, and after cardiorespiratory fitness testing.		x			x																
I.D.1.h		the anatomy and physiology of the cardiovascular and pulmonary systems.	x		x																		
I.D.1.i		cardiorespiratory terminology including angina pectoris, tachycardia, bradycardia, arrhythmia, and hyperventilation.			x		x																
I.D.1.j		the pathophysiology of myocardial ischemia, myocardial infarction, stroke, hypertension, and hyperlipidemia.			x																		
I.D.1.k		the effects of myocardial ischemia, myocardial infarction, hypertension, claudication, and dyspnea on cardiorespiratory responses during exercise.			x																		
I.D.1.l		oxygen consumption dynamics during exercise (e.g., heart rate, stroke volume, cardiac output, ventilation, ventilatory threshold).	x		x																		
I.D.1.m		methods of calculating VO2max.	x	x																			
I.D.1.n		cardiorespiratory responses to acute graded exercise of conditioned and unconditioned participants.			x																		
I.D.2.a	Skills in:	interpreting cardiorespiratory fitness test results.	x	x											x								
I.D.2.b		locating anatomic landmarks for palpation of peripheral pulses and blood pressure.		x																			
I.D.2.c		measuring heart rate, blood pressure, and RPE at rest and during exercise.		x			x								x								

I.D.2.d		conducting submaximal exercise tests (e.g., cycle ergometer, treadmill, field testing, step test).		×											x								
I.D.2.e		determining cardiorespiratory fitness based on submaximal exercise test results.		×											x								
E		**Conduct assessments of muscular strength, muscular endurance and flexibility.**																					
I.E.1.a	Knowledge of:	common muscular strength, muscular endurance, and flexibility assessment protocols.		×		x																	
I.E.1.b		interpreting muscular strength, muscular endurance, and flexibility assessments.		×		x									x								
I.E.1.c		relative strength, absolute strength, and repetition maximum (1-RM) estimation.		×																			
I.E.1.d		the anatomy of bone, skeletal muscle, and connective tissues.				x																	
I.E.1.e		muscle action terms including anterior, posterior, inferior, superior, medial, lateral, supination, pronation, flexion, extension, adduction, abduction, hyperextension, rotation, circumduction, agonist, antagonist, and stabilizer.				x																	
I.E.1.f		the planes and axes in which each movement action occurs.				x																	
I.E.1.g		the interrelationships among center of gravity, base of support, balance, stability, posture, and proper spinal alignment.				x																	
I.E.1.h		the normal curvatures of the spine and common assessments of postural alignment.				x																	
I.E.1.i		the location and function of the major muscles (e.g., pectoralis major, trapezius, latissimus dorsi, biceps, triceps, rectus abdominus, internal and external obliques, erector spinae, gluteus maximus, quadriceps, hamstrings, adductors, abductors, and gastrocnemius).				x																	
I.E.1.j		the major joints and their associated movement.				x																	
I.E.2.a	Skills in:	identifying the major bones, muscles, and joints.				x																	
I.E.2.b		conducting assessments of muscular strength, muscular endurance and flexibility (e.g., 1-RM, hand grip dynamometer, push-ups, curl-ups, sit-and-reach).		×											x								
I.E.2.c		estimating 1-RM using lower resistance (2-10 RM).		x																			
I.E.2.d		interpreting results of muscular strength, muscular endurance and flexibility assessments.		×											x								
F		**Conduct anthropometric and body composition assessments.**																					

I.F.1.a		the advantages, disadvantages and limitations of body composition techniques (e.g., air displacement plethysmography (BOD POD®), duel-energy x-ray absorptiometry (DEXA), hydrostatic weighing, skinfolds, and bioelectrical impedance.		×																			
I.F.1.b		the standardized descriptions of circumference and skinfold sites.		×											x								
I.F.1.c		procedures for determining BMI and taking skinfold and circumference measurements.		×											x								
I.F.1.d		the health implications of variation in body fat distribution patterns and the significance of BMI, waist circumference, and waist-to-hip ratio.		×	x																		
I.F.2.a	Skill in:	locating anatomic landmarks for skinfold and circumference measurements.		×											x								
I.F.2.b		interpreting the results of anthropometric and body composition assessments.		×	x										x								
Domain II		**Exercise Prescription and Implementation**	**PE 350 Exercise Physiology**	**PE 400 Exercise Testing and Perscription**	**PE 450 Clinical Exercise Physiology**	**PE 454 Biomechanics**	**PE 455 ECG and Clinical Stress Testing**	**PE 395 Practicum**	**PE 367 Health and Human Performance**	**PE 354 Prevention and Care of Athletic Injuries**	**NUTR 315 Human Nutrition**	**NUTR 225 Nutrition for Exercise and Sport**	**NURS 323 Pathophysiology**	**NURS 201 Medical Terminology**	**HNS 494 Internship**	**HNS 490 Seminar**	**HNS 380 Professional Development**	**HLTH 479 Health Promotion**	**HLTH 445 Epidemiology**	**HLTH 205 First Aid and CPR**	**CHRD 475 Wellness Counseling**	**BIOL 325 Human Physiology**	**BIOL 221 Anatomy**
A		**Review pre-participation health screening including self-guided health questionnaires and appraisals, exercise history and fitness assessments**																					
II.A.1.a	Skills in:	synthesizing pre-screening results and reviewing them with participants		×																			
B		**Determine safe and effective exercise programs to achieve desired outcomes and goals.**																					
II.B.1.a	Knowledge of:	strength, aerobic, and flexibility based exercise.		×																			
II.B.1.b		the benefits and precautions associated with exercise training in apparently healthy participants and those with controlled disease.		×	x																		
II.B.1.c		program development for specific client needs (e.g., sport specific training, performance, health, lifestyle, functional ability, balance, agility, aerobic, anaerobic).			x																		
II.B.1.d		the six motor skill related physical fitness components; agility, balance, coordination, reaction time, speed, and power.		×		x																	
II.B.1.e		physiologic changes associated with an acute bout of exercise.	x		x																		
II.B.1.f		the physiologic adaptations following chronic exercise training.	x		x																		
II.B.1.g		ACSM exercise prescription guidelines for strength, aerobic, and flexibility based exercise for apparently healthy clients, clients with increased risk, and clients with controlled disease.		×	x																		
II.B.1.h		the components and sequencing incorporated into an exercise session (e.g., warm-up, stretching, conditioning or sports related exercise, cool-down).		×																			

II.B.1.i		the physiological principles related to warm-up and cool-down.	x																				
II.B.1.j		the principles of reversibility, progressive overload, individual differences and specificity of training, and how they relate to exercise prescription.							x														
II.B.1.k		role of aerobic and anaerobic energy systems in the performance of various physical activities.	x																				
II.B.1.l		the basic biomechanical principles of human movement.				x																	
II.B.1.m		the psychological and physiological signs and symptoms of overtraining.																					
II.B.1.n		the signs and symptoms of common musculoskeletal injuries associated with exercise (e.g., sprain, strain, bursitis, and tendonitis).				x																	
II.B.1.o		the advantages and disadvantages of exercise equipment (e.g., free weights, selectorized machines, aerobic equipment).				x																	
II.B.2.a	Skills in:	teaching and demonstrating exercises.							x														
II.B.2.		designing safe and effective training programs.							x						x								
II.B.2.c		implementing exercise prescription guidelines for apparently healthy clients, clients with increased risk, and clients with controlled disease.		x	x				x						x								
C		**Implement cardiorespiratory exercise prescriptions using the FITT principle (frequency, intensity, time, and type) for apparently healthy participants based on current health status, fitness goals and availability of time.**																					
II.C.1.a	Knowledge of:	the recommended FITT framework for the development of cardiorespiratory fitness.		×																			
II.C.1.b		the benefits, risks and contraindications of a wide variety of cardiovascular training exercises based on client experience, skill level, current fitness level and goals.		×	x																		
II.C.1.c		the minimal threshold of physical activity required for health benefits and/or fitness development.	x	×																			
II.C.1.d		determining exercise intensity using HRR, VO2R, peak HR method, peak VO2 method, peak METs method, and the RPE Scale.	x	×	x																		
II.C.1.e		the accuracy of HRR, VO2R, peak HR method, peak VO2 method, peak METs method, and the RPE Scale.	x	×																			
II.C.1.f		abnormal responses to exercise (e.g., hemodynamic, cardiac, ventilatory).	x	×	x																		
II.C.1.g		metabolic calculations (e.g., unit conversions, deriving energy cost of exercise, caloric expenditure).	x	×																			
II.C.1.h		calculating the caloric expenditure of an exercise session (kcal session1).	x	×																			

II.C.1.i		methods for establishing and monitoring levels of exercise intensity, including heart rate, RPE, and METs.	x	x	x																		
II.C.1.j		the applications of anaerobic training principles.							x														
II.C.1.k		the anatomy and physiology of the cardiovascular and pulmonary systems including the basic properties of cardiac muscle.	x																				
II.C.1.l		the basic principles of gas exchange.	x																				
II.C.2.a	Skills in:	determining appropriate exercise frequency, intensity, time and type for clients with various fitness levels.		x	x				x						x								
II.C.2.b		determining the energy cost, absolute and relative oxygen costs (VO2), and MET levels of various activities and applying the information to an exercise prescription.	x	x																			
II.C.2.c		identifying improper technique in the use of cardiovascular equipment.		x																			
II.C.2.d		teaching and demonstrating the use of a variety of cardiovascular exercise equipment.		x																			
D		**Implement exercise prescriptions using the FITT principle (frequency, intensity, time, and type) for flexibility, muscular strength, and muscular endurance for apparently healthy participants based on current health status, fitness goals and availability of time.**																					
II.D.1.a		the recommended FITT framework for the development of muscular strength, muscular endurance and flexibility.		x											x								
II.D.1.b		the minimal threshold of physical activity required for health benefits and/or fitness development.	x	x											x								
II.D.1.c		safe and effective exercises designed to enhance muscular strength and/or endurance of major muscle groups.							x						x								
II.D.1.d		safe and effective stretches that enhance flexibility.							x						x								
II.D.1.e		indications for water based exercise (e.g., arthritis, obesity).			x																		
II.D.1.f		the types of resistance training programs (e.g., total body, split routine) and modalities (e.g., free weights, variable resistance equipment, pneumatic machines, bands).							x														
II.D.1.g		acute (e.g., load, volume, sets, repetitions, rest periods, order of exercises) and chronic training variables (e.g., periodization).							x														
II.D.1.h		the types of muscle contractions (e.g., eccentric, concentric, isometric).	x			x																	
II.D.1.i		joint movements (e.g., flexion, extension, adduction, abduction) and the muscles responsible for them.				x																	x
II.D.1.j		acute and delayed onset muscle soreness (DOMS).	x			x																	

II.D.1.k		the anatomy and physiology of skeletal muscle fiber, the characteristics of fast-and slow-twitch muscle fibers, and the sliding filament theory of muscle contraction.	x																				x
II.D.1.l		the stretch reflex, proprioceptors, golgi tendon organ (GTO), muscle spindles, and how they relate to flexibility.	x			x																x	x
II.D.1.m		muscle-related terminology including atrophy, hyperplasia, hypertrophy.	x			x																x	
II.D.1.n		the Valsalva maneuver and its implications during exercise.	x		x																	x	
II.D.1.o		the physiology underlying plyometric training and common plyometric exercises (e.g., box jumps, leaps, bounds).				x			x														
II.D.1.p		the contraindications and potential risks associated with muscular conditioning activities (e.g., straight-leg sit-ups, double leg raises, squats, hurdler's stretch, yoga plough, forceful back hyperextension, and standing bent-over toe touch, behind neck press/lat pull-down).			x				x														
II.D.1.q		prescribing exercise using the calculated %1-RM.							x														
II.D.1.r		spotting positions and techniques for injury prevention and exercise assistance.							x														
II.D.1.s		periodization (e.g., macro, micro, mesocycles) and associated theories.							x														
II.D.1.t		safe and effective Olympic weight lifting exercises.							x														
II.D.1.u		safe and effective core stability exercises (e.g., planks, crunches, bridges, cable twists).							x														
II.D.2.a	Skills in:	identifying improper technique in the use of resistive equipment (e.g., stability balls, weights, bands, resistance bars, and water exercise equipment).							x														
II.D.2.b		teaching and demonstrating appropriate exercises for enhancing musculoskeletal flexibility.							x														
II.D.2.c		teaching and demonstrating safe and effective muscular strength and endurance exercises (e.g., free weights, weight machines, resistive bands, Swiss balls, body weight and all other major fitness equipment).							x														
E		**Establish exercise progression guidelines for resistance, aerobic and flexibility activity to achieve the goals of apparently healthy participants.**																					
II.E.1.a	Knowledge of:	the basic principles of exercise progression.							x														
II.E.1.a		adjusting the FITT framework in response to individual changes in conditioning.							x														
II.E.1.a		the importance of performing periodic reevaluations to assess changes in fitness status.							x														

II.E.1.a		the training principles that promote improvements in muscular strength, muscular endurance, cardiorespiratory fitness, and flexibility.							x														
II.E.2.a	Skills in:	recognizing the need for progression and communicating updates to exercise prescriptions.							x														
F		**Implement a weight management program as indicated by personal goals that are supported by pre-participation health screening, health history, and body composition/anthropometrics.**																					
II.F.1.a	Knowledge of:	exercise prescriptions for achieving weight management, including weight loss, weight maintenance and weight gain goals.							x														
II.F.1.b		energy balance and basic nutritional guidelines (e.g., MyPyramid, USDA Dietary Guidelines for Americans).									x												
II.F.1.c		weight management terminology including, but not limited to, obesity, overweight, percent fat, BMI, lean body mass (LBM), anorexia nervosa, bulimia, binge eating, metabolic syndrome, body fat distribution, adipocyte, bariatrics, ergogenic aid, fat-free mass (FFM), resting metabolic rate (RMR) and thermogenesis.			x							x											
II.F.1.d		the relationship between body composition and health.		x	x							x											
II.F.1.e		the unique dietary needs of participant populations (e.g., women, children, older adults, pregnant women).									x												
II.F.1.f		common nutritional ergogenic aids, their purported mechanisms of action, and associated risks and benefits (e.g., protein/amino acids, vitamins, minerals, herbal products, creatine, steroids, caffeine).										x											
II.F.1.g		methods for modifying body composition including diet, exercise, and behavior modification.			x							x											
II.F.1.h		fuel sources for aerobic and anaerobic metabolism including carbohydrates, fats and proteins.										x											
II.F.1.i		the effects of overall dietary composition on healthy weight management.									x	x											
II.F.1.j		the importance of maintaining normal hydration before, during and after exercise.									x	x											
II.F.1.k		the consequences of inappropriate weight loss methods (e.g., saunas, dietary supplements, vibrating belts, body wraps, over exercising, very low calorie diets, electric stimulators, sweat suits, fad diets).										x											
II.F.1.l		the kilocalorie levels of carbohydrate, fat, protein, and alcohol.	x								x	x											
II.F.1.m		the relationship between kilocalorie expenditures and weight loss.	x									x											
II.F.1.n		published position statements on obesity and the risks associated with it (e.g., National Institutes of Health, American Dietetic Association, ACSM).			x																		

II.F.1.o		the relationship between body fat distribution patterns and health.			x																		
II.F.1.p		the physiology and pathophysiology of overweight and obese participants.			x																		
II.F.1.q		the recommended FITT framework for participants who are overweight or obese.			x																		
II.F.1.r		comorbidities and musculoskeletal conditions associated with overweight and obesity that may require medical clearance and/or modifications to exercise testing and prescription.			x																		
II.F.2.a	Skills in:	applying behavioral strategies (e.g., exercise, diet, behavioral modification strategies) for weight management.			x																		
II.F.2.b		modifying exercises for individuals limited by body size.			x																		
II.F.2.c		calculating the volume of exercise in terms of kcal⁄session-1.	x	×																			
G		**Prescribe and implement exercise programs for participants with controlled cardiovascular, pulmonary, and metabolic diseases and other clinical populations.**																					
II.G.1.a	Knowledge of:	ACSM risk stratification and exercise prescription guidelines for participants with cardiovascular, pulmonary, and metabolic diseases and other clinical populations.		×	x																		
II.G.1.b		ACSM relative and absolute contraindications for initiating exercise sessions or exercise testing, and indications for terminating exercise sessions and exercise testing.		×	x																		
II.G.1.c		physiology and pathophysiology of cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, and pulmonary disease.			x																		
II.G.1.d		the effects of diet and exercise on blood glucose levels in diabetics.			x																		
II.G.1.e		the recommended FITT principle for the development of cardiorespiratory fitness, muscular fitness and flexibility for participants with cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, and pulmonary disease.			x																		
II.G.2.a	Skills in:	progressing exercise programs, according to the FITT principle, in a safe and effective manner.							x														
II.G.2.b		modifying the exercise prescription and/or exercise choice for individuals with cardiac disease, arthritis, diabetes mellitus, dyslipidemia, hypertension, metabolic syndrome, musculoskeletal injuries, overweight and obesity, osteoporosis, peripheral artery disease, and pulmonary disease.			x																		

II.G.2.c		identifying improper exercise techniques and modifying exercise programs for participants with low back, neck, shoulder, elbow, wrist, hip, knee and/or ankle pain.			x																		
H		**Prescribe and implement exercise programs for healthy special populations (i.e., older adults, youth, and pregnant women).**																					
II.H.1.a	Knowledge of:	normal maturational changes, from childhood to old age, and their effects on the skeletal muscle, bone, reaction time, coordination, posture, heat and cold tolerance, maximal oxygen consumption, strength, flexibility, body composition, resting and maximal heart rate, and resting and maximal blood pressure.			x																		
II.H.1.b		techniques for the modification of cardiovascular, flexibility, and resistance exercises based on age, functional capacity and physical condition.		x																			
II.H.1.c		techniques for the development of exercise prescriptions for children, adolescents and older adults with regard to strength, functional capacity, and motor skills.			x																		
II.H.1.d		the unique adaptations to exercise training in children, adolescents, and older participants with regard to strength, functional capacity, and motor skills.			x																		
II.H.1.e		the benefits and precautions associated with exercise training across the lifespan.			x																		
II.H.1.f		the recommended FITT framework for the development of cardiorespiratory fitness, muscular fitness and flexibility in apparently healthy children and adolescents.			x																		
II.H.1.g		the effects of the aging process on the musculoskeletal and cardiovascular structures and functions during rest, exercise, and recovery.			x																		
II.H.1.h		the recommended FITT framework necessary for the development of cardiorespiratory fitness, muscular fitness, balance, and flexibility in apparently healthy, older adults.			x																		
II.H.1.i		common orthopedic and cardiovascular exercise considerations for older adults.			x																		
II.H.1.j		the relationship between regular physical activity and the successful performance of activities of daily living (ADLs) for older adults.		x	x																		
II.H.1.k		the recommended frequency, intensity, type, and duration of physical activity necessary for the development of cardiorespiratory fitness, muscular fitness and flexibility in apparently healthy pregnant women.			x																		
II.H.2.a	Skills in:	teaching and demonstrating appropriate exercises for healthy populations with special considerations.						x															
II.H.2.b		modifying exercises based on age, physical condition, and current health status.						x															
I		Modify exercise prescriptions based on environmental conditions.																					
II.I.1.a	Knowledge of	the effects of a hot, cold, or high altitude environment on the physiologic response to exercise.	x																				

II.I.1.b		special precautions and program modifications for exercise in a hot, cold, or high altitude environment.						x															
II.I.1.c		the role of acclimatization when exercising in a hot or high altitude environment.	x																				
II.I.1.d		appropriate fluid intake during exercise in a hot, humid environments as well as cold, and altitude.	x																				
Domain III	**Exercise Counseling and Behavioral Strategies**		**PE 350 Exercise Physiology**	**PE 400 Exercise Testing and Perscription**	**PE 450 Clinical Exercise Physiology**	**PE 454 Biomechanics**	**PE 455 ECG and Clinical Stress Testing**	**PE 395 Practicum**	**PE 367 Health and Human Performance**	**PE 354 Prevention and Care of Athletic Injuries**	**NUTR 315 Human Nutrition**	**NUTR 225 Nutrition for Exercise and Sport**	**NURS 323 Pathophysiology**	**NURS 201 Medical Terminology**	**HNS 494 Internship**	**HNS 490 Seminar**	**HNS 380 Professional Development**	**HLTH 479 Health Promotion**	**HLTH 445 Epidemiology**	**HLTH 205 First Aid and CPR**	**CHRD 475 Wellness Counseling**	**BIOL 325 Human Physiology**	**BIOL 221 Anatomy**
A		Optimize adoption and adherence to exercise programs and other healthy behaviors by applying effective communication techniques.						x															
III.A.1.a	Knowledge of:	the effective and timely uses of communication modes (e.g., email, telephone, web site, newsletters).						x															
III.A.1.b		verbal and non-verbal behaviors that communicate positive reinforcement and encouragement (e.g., eye contact, targeted praise, empathy).						x															
III.A.1.c		group leadership techniques for working with participants of all ages.						x															
III.A.1.d		active listening techniques.						x															
III.A.1.e		learning modes (auditory, visual, kinesthetic).						x															
III.A.1.f		types of feedback (e.g., evaluative, supportive, descriptive).						x															
III.A.2.a	Skill in:	using active listening techniques.						x															
III.A.2.b		applying teaching and training techniques to optimize participant training sessions.						x															
III.A.2.c		using feedback to optimize participant training sessions.						x															
III.A.2.d		applying verbal and non-verbal communications with diverse participant populations.						x															
B		**Optimize adoption of and adherence to exercise programs and other healthy behaviors by applying effective behavioral and motivational strategies.**																					
III.B.1.a	Knowledge of:	behavior change models and theories (e.g., health belief model, theory of planned behavior, socio-ecological model, transtheoretical model, social cognitive theory, and cognitive evaluation theory).						x										x			x		
III.B.1.b		the basic principles involved in Motivational Interviewing.						x													x		
III.B.1.c		intervention strategies and stress management techniques.																			x		

III.B.1.d		the stages of motivational readiness (e.g., Transtheoretical model).						x										x			x			
III.B.1.e		behavioral strategies for enhancing exercise and health behavior change (e.g., reinforcement, S.M.A.R.T. goal setting, social support).																x			x			
III.B.1.f		behavior modification terminology including, but not limited to, self-esteem, self-efficacy, antecedents, cues to action, behavioral beliefs, behavioral intentions, and reinforcing factors.																x			x			
III.B.1.g		behavioral strategies (e.g., exercise, diet, behavioral modification strategies) for weight management.																			x			
III.B.1.h		the role that affect, mood and emotion play in exercise adherence.						x																
III.B.1.i		common barriers to exercise initiation and compliance (e.g., time management, injury, fear, lack of knowledge, weather).						x																
III.B.1.j		techniques that facilitate motivation (e.g., goal setting, incentive programs, achievement recognition, social support).						x													x			
III.B.1.k		the role extrinsic and intrinsic motivation plays in the adoption and maintenance of behavior change.						x													x			
III.B.1.l		relapse prevention strategies and plans of action.						x													x			
III.B.1.m		applying health coaching principles and lifestyle management techniques related to behavior change.						x													x			
III.B.1.n		strategies that increase non-structured physical activity levels (e.g., stair walking, parking farther away, bike to work).						x																
III.B.2.a	Skills in:	explaining the purpose and value of understanding perceived exertion.	x					x																
III.B.2.b		using imagery as a motivational tool.																			x			
III.B.2.c		evaluating behavioral readiness to optimize exercise adherence.																x			x			
III.B.2.d		applying the theories related to behavior change to diverse populations.																			x			
III.B.2.e		developing intervention strategies to increase self-efficacy and self-confidence.			x																x			
III.B.2.f		developing reward systems that support and maintain program adherence.																			x			
III.B.2.g		setting effective behavioral goals.																x			x			
C		**Provide educational resources to support clients in the adoption and maintenance of healthy lifestyle behaviors.**																						

III.C.1.a	Knowledge of:	the relationship between physical inactivity and common chronic diseases (e.g., Atherosclerosis, type II diabetes, obesity, dyslipidemia, arthritis, low back pain, hypertension).	x		x																		
III.C.1.b		the dynamic inter-relationship between fitness level, body composition, stress and overall health.			x																		
III.C.1.c		modifications necessary to promote healthy lifestyle behaviors for diverse populations.			x																		
III.C.1.d		stress management techniques and relaxation techniques (e.g., progressive relaxation, guided imagery, massage therapy).													x								
III.C.1.e		the activities of daily living (ADLs) and how they relate to overall health.			x																		
III.C.1.f		accessing and disseminating scientifically-based, relevant health, exercise, nutrition, and wellness-related resources and information.			x																		
III.C.1.g		specific, age-appropriate leadership techniques and educational methods to increase client engagement.						x															
III.C.1.h		community-based exercise programs that provide social support and structured activities (e.g., walking clubs, intramural sports, golf leagues, cycling clubs).													x								
III.C.2.a	Skills in:	accessing and delivering health, exercise, and wellness-related information.													x								
III.C.2.b		educating clients about benefits and risks of exercise and the risks of sedentary behavior.						x															
D		Provide support within the scope of practice of a Health Fitness Specialist and refer to other health professionals as indicated.																					
III.D.1.a	Knowledge of:	the side effects of common over-the-counter and prescription drugs that may impact a client's ability to exercise.			x																		
III.D.1.b		signs and symptoms of mental health states (e.g., anxiety, depression, eating disorders) that may necessitate referral to a medical or mental health professional.										x (Eating Disorders)									x (Anxiety/Dression)		
III.D.1.c		symptoms and causal factors of test anxiety (i.e., performance, appraisal threat during exercise testing) and how they may affect physiological responses to testing.		x																			
III.D.1.d		client needs and learning styles that my impact exercise sessions and exercise testing procedures.															x						
III.D.1.e		conflict resolution techniques that facilitate communication among exercise cohorts.						x															
III.D.2.a		communicating the need for medical, nutritional, or mental health intervention.		x																			
Domain IV	**Legal/Professional**		**PE 350 Exercise Physiology**	**PE 400 Exercise Testing and Perscription**	**PE 450 Clinical Exercise Physiology**	**PE 454 Biomechanics**	**PE 455 ECG and Clinical Stress Testing**	**PE 395 Practicum**	**PE 367 Health and Human Performance**	**PE 354 Prevention and Care of Athletic Injuries**	**NUTR 315 Human Nutrition**	**NUTR 225 Nutrition for Exercise and Sport**	**NURS 323 Pathophysiology**	**NURS 201 Medical Terminology**	**HNS 494 Internship**	**HNS 490 Seminar**	**HNS 380 Professional Development**	**HLTH 479 Health Promotion**	**HLTH 445 Epidemiology**	**HLTH 205 First Aid and CPR**	**CHRD 475 Wellness Counseling**	**BIOL 325 Human Physiology**	**BIOL 221 Anatomy**

A		**Create and disseminate risk management guidelines for a health/fitness facility, department or organization to reduce member, employee and business risk.**						**x**															
IV.A.1.a	Knowledge of:	employee criminal background checks, child abuse clearances and drug and alcohol screenings.						x															
IV.A.1.b		employment verification requirements mandated by state and federal laws.						x															
IV.A.1.c		safe handling and disposal of body fluids and employee safety (OSHA guidelines).						x															
IV.A.1.d		insurance coverage common to the health/fitness industry including general liability, professional liability, workers' compensation, property, and business interruption.						x															
IV.A.1.e		sexual harassment policies and procedures.						x									x						
IV.A.1.f		interviewing techniques.						x									x						
IV.A.1.g		basic precautions taken in an exercise setting to ensure participant safety.						x															
IV.A.1.h		pre-activity screening, medical release and waiver of liability for normal and at-risk participants.						x															
IV.A.1.i		emergency response systems and procedures (EAP).						x															
IV.A.1.j		the use of signage.						x															
IV.A.1.k		preventive maintenance schedules and audit						x															
IV.A.1.l		techniques and methods of evaluating the condition of exercise equipment to reduce the potential risk of injury.						x															
IV.A.1.m		the legal implications of documented safety procedures, the use of incident documents, and ongoing safety training documentation for the purpose of safety and risk management						x															
IV.A.1.n		documentation procedures for CPR and AED certification for employees.						x															
IV.A.1.o		AED guidelines for implementation.						x															
IV.A.1.p		the components of the ACSM Code of Ethics and the ACSM Certified Health Fitness Specialist scope of practice.						x															
IV.A.2.a	Skill in:	developing and disseminating a policy and procedures manual.						x															
IV.A.2.b		developing and implementing confidentiality policies.						x															

IV.A.2.c		maintenance of a safe exercise environment (e.g., equipment operation, proper sanitation, safety and maintenance of exercise areas, and overall facility maintenance).						x															
IV.A.2.d		organization, communication, and human resource management required to implement risk management policies and procedures.						x															
IV.A.2.e		training employees to identify high risk situations.						x															
B		**Create an effective injury prevention program and ensure that emergency policies and procedures are in place.**																					
IV.B.1.a	Knowledge of:	emergency procedures (i.e., telephone procedures, written emergency procedures (EAP), personnel responsibilities) in a health and fitness setting						x												x			
IV.B.1.b		basic first-aid procedures for exercise-related injuries, such as bleeding, strains/sprains, fractures, and exercise intolerance (dizziness, syncope, heat and cold injuries).								x										x			
IV.B.1.c		the EPCs responsibilities and limitations, and the legal implications of carrying out emergency procedures.						x															
IV.B.1.d		safety plans, emergency procedures and first-aid techniques needed during fitness evaluations, exercise testing, and exercise training						x		x													
IV.B.1.e		potential musculoskeletal injuries (e.g., contusions, sprains, strains, fractures), cardiovascular/pulmonary complications (e.g., tachycardia, bradycardia, hypotension/hypertension, dyspnea) and metabolic abnormalities (e.g., fainting/syncope, hypoglycemia/hyperglycemia, hypothermia/hyperthermia).								x													
IV.B.1.f		the initial management and first-aid techniques associated with open wounds, musculoskeletal injuries, cardiovascular/pulmonary complications, and metabolic disorders.								x													
IV.B.1.g		emergency documentation and appropriate document utilization.						x															
IV.B.2.a	Skills in:	applying basic first-aid procedures for exercise-related injuries, such as bleeding, strains/sprains, fractures, and exercise intolerance (dizziness, syncope, heat and cold injuries).																		x			
IV.B.2.b		applying basic life support, first aid, cardiopulmonary resuscitation, and automated external defibrillator techniques.																		x			
IV.B.2.c		designing an evacuation plan.						x															
IV.B.2.d		d+C274:C282emonstrating emergency procedures during exercise testing and/or training.						x															
Domain V	**Management**		**PE 350 Exercise Physiology**	**PE 400 Exercise Testing and Perscription**	**PE 450 Clinical Exercise Physiology**	**PE 454 Biomechanics**	**PE 455 ECG and Clinical Stress Testing**	**PE 395 Practicum**	**PE 367 Health and Human Performance**	**PE 354 Prevention and Care of Athletic Injuries**	**NUTR 315 Human Nutrition**	**NUTR 225 Nutrition for Exercise and Sport**	**NURS 323 Pathophysiology**	**NURS 201 Medical Terminology**	**HNS 494 Internship**	**HNS 490 Seminar**	**HNS 380 Professional Development**	**HLTH 479 Health Promotion**	**HLTH 445 Epidemiology**	**HLTH 205 First Aid and CPR**	**CHRD 475 Wellness Counseling**	**BIOL 325 Human Physiology**	**BIOL 221 Anatomy**
A		**Manage human resources in accordance with leadership, organization, and management techniques.**																					

V.A.1.a	Knowledge of:	industry benchmark compensation and employee benefit guidelines.						x															
V.A.1.b		federal, state and local laws pertaining to staff qualifications and credentialing requirements.						x															
V.A.1.c		techniques for tracking and evaluating member retention.						x															
V.A.2.a	Skills in:	policies, practices and guidelines to efficiently hire, train, supervise, schedule and evaluate employees.						x															
V.A.2.b		applying conflict resolution techniques.						x															
B		**Manage fiscal resources in accordance with leadership, organization, and management techniques.**																					
V.B.1.a	Knowledge of:	fiduciary roles and responsibilities inherent in managing an exercise and health promotion program.						x															
V.B.1.b		principles of financial planning and goal setting, institutional budgeting processes, forecasting, and allocation of resources.						x															
V.B.1.c		basic software systems that facilitate accounting (e.g., Excel).						x															
V.B.1.d		industry benchmarks for budgeting and finance.						x															
V.B.1.e		basic sales techniques that promote health, fitness, and wellness services.						x															
V.B.2.a	Skills in:	efficiently managing financial resources and performing related tasks (e.g., planning, budgeting, resource allocation, revenue generation).						x															
V.B.2.b		administering fitness- and wellness-related programs within established budgetary guidelines.						x															
C		**Establish policies and procedures for the management of health fitness facilities based on accepted safety and legal guidelines, standards and regulations.**																					
V.C.1.a	Knowledge of:	accepted guidelines, standards, and regulations used to establish policies and procedures for the management of health fitness facilities.						x															
V.C.1.b		facility design and operation principles.						x															
V.C.1.c		facility and equipment maintenance guidelines.						x															
V.C.1.d		documentation techniques for health fitness facility management.						x															
V.C.1.e		federal, state, and local laws as they relate to health fitness facility management.						x															

D		**Develop and execute a marketing plan to promote programs, services and facilities.**																					
V.D.1.a	Knowldege of:	lead generation techniques.																x					
V.D.1.b		the four Ps of marketing: product, price, placement, and promotion.																x					
V.D.1.c		public relations, community awareness, and sponsorship and their relationship to branding initiatives.																x					
V.D.1.d		advertising techniques.																x					
V.D.1.e		target market (internal) assessment techniques.																x					
V.D.1.f		target market (external) assessment techniques.																x					
V.D.2.a	Skills in:	applying marketing techniques that promote client retention.																x					
V.D.2.b		applying marketing techniques that attract new clients.																x					
V.D.2.c		designing and writing promotional materials																x					
V.D.2.d		collaborating with community and governmental agencies and organizations.																x					
V.D.2.e		providing customer service.						x															
E		**Use effective communication techniques to develop professional relationships with other allied health professionals (e.g., nutritionists, physical therapists, physicians, nurses).**															x	x					
V.E.1.a	Knowledge of:	communication styles and techniques.															x	x					
V.E.1.a		networking techniques.															x	x					
V.E.2.a	Skills in:	planning meetings.													x								