COURSE OUTLINE
Principles of Personal Training

Course Description
FW 225. Principles of Personal Training. 3 hours credit. This course will enable the student to understand the role of exercise in wellness, the scientific foundations necessary to evaluate fitness levels, and the prescription of exercise in a career in the fitness industry. This course will prepare the student to sit for the Certified Personal Trainer exam through the National Strength and Conditioning Association.

Required Materials
For complete material(s) information, refer to: https://bookstore.butlercc.edu

Butler-Assessed Outcomes
The intention is for the student to be able to
1. Demonstrate knowledge of applied exercise science principles through the assessment, program development, and implementation of an exercise program designed to improve health and fitness.

Learning PACT Skills that will be developed and documented in this course
Through involvement in this course, the student will develop ability in the following PACT skill area(s):

Analytical Thinking Skills
• Problem solving – By designing training programs, the student will utilize a variety of methodologies to improve individuals’ health and fitness levels.

Communication Skills
• Reception and interpretation of messages – Through the design of individualized training programs, the student develops effective observation and interpretation skills.

Major Summative Assessment Task(s)
These Butler-assessed Outcome(s) and Learning PACT skills will be demonstrated by
1. Designing training programs that include a personal trainer’s recommendations for cardiorespiratory fitness, muscular strength, weight management, flexibility, and functional training for sedentary adults, prepubescent youth, pregnant women, and senior citizens. The programs will be based on the screening and evaluations to be completed by a personal trainer, including health status questionnaire, resting test batteries, cardiorespiratory fitness evaluation, muscular strength, and endurance testing.

Skills or Competencies
These actions are essential to achieve the course outcomes:
1. Assess flexibility, cardiorespiratory endurance and strength.
2. Explain problem-solving and decision-making for effective training programs.
3. Demonstrate leadership and communication as a trainer or coach in the development of exercise programs.

Learning Units
I. Physical activity and health
   A. Relationship between physical activity and health
   B. Physical activity and the prevention of premature health problems
   C. Implications for fitness professionals
II. Physical fitness and performance
   A. Physical fitness goals
   B. Performance goals
   C. Components of physical fitness and performance
   D. Behaviors that support fitness and performance
   E. Common behaviors for fitness and health
   F. Fitness goal-setting
III. Health appraisal and evaluation techniques
   A. Health status evaluation
   B. Decisions based on health status
   C. Changes to health fitness status
IV. Exercise physiology
   A. Relationship of energy to work
   B. Muscle structure and function
   C. Metabolic, cardiovascular, and respiratory responses to exercise
   D. Effects of endurance training and detraining on physiological responses to exercise
   E. Cardiovascular responses to isometric exercise and weightlifting
   F. Regulation of body temperature
V. Measurement and evaluation
   A. Establishment of validity
   B. Accuracy of testing
   C. Test scores in a fitness program
VI. Energy costs of physical activity
   A. Ways to measure energy expenditure
   B. Ways to express energy expenditure
   C. Formulas for estimating energy costs of activity
VII. Cardiorespiratory
A. Cardiorespiratory fitness testing
B. Risks of cardiorespiratory fitness testing
C. Sequence of testing
D. Graded exercise tests
E. Variables for graded exercise testing
F. Submaximal and maximal testing determination

VIII. Muscular strength and endurance
A. Definitions
B. General adaptations to resistance training
C. Muscle soreness
D. Muscle fatigue
E. Assessments of muscular strength and endurance

IX. Flexibility and low back function
A. Factors affecting range of motion
B. Range of motion and low back function
C. Measurement of spine and hip-joint range of motion

X. Exercise prescription for cardiorespiratory fitness
A. Exercise training principles
B. Guidelines for cardiorespiratory fitness programs
C. Formulation of exercise prescription
D. Determination of exercise intensity
E. Exercise recommendations for the fit and unfit populations
F. Program selection
G. Environmental concerns

XI. Exercise prescription for strength, endurance, and bone density
A. Training considerations for increasing muscle/endurance and bone density
B. Aerobic and anaerobic adaptations
C. Weight training methods
D. Systems of resistance training
E. Resistance training and bone mineral density
F. Maintenance and overtraining
G. Warm-up and cool-down
H. Training safety tips
I. Exercise prescriptions for resistance training

XII. Exercise prescription for flexibility and low back function
A. Anatomy of the spine
B. Spinal movements
C. Mechanics of the spine and hip joint
D. Low-back pain
E. Therapeutic and preventative exercise considerations
XIII. Exercise leadership for fitness
   A. Effective leadership
   B. Activity progression
   C. Walk/Jog/Run programs
   D. Cycling
   E. Games
   F. Aquatic exercise
   G. Exercise to music
   H. Exercise equipment
   I. Circuit training

XIV. Exercise prescription for special populations
   A. Children and prepubescent youth
   B. Elderly
   C. Pregnant women
   D. Diseases/disabilities
   E. Sedentary adults
   F. Senior citizens

XV. Injury prevention and treatment
   A. Prevention of injuries
   B. Injury treatment
   C. Environmental concerns
   D. Common orthopedic problems
   E. CPR and emergency procedures

XVI. Program administration and management
   A. Long-range goal setting
   B. Management of personnel
   C. Successful program development
   D. Budget development
   E. Equipment and supplies
   F. Record keeping
   G. Program evaluation

Learning Activities
Learning activities will be assigned to assist the student to achieve the intended learning outcomes through instructor lectures, audio-visual aids, group discussion, reading assignments, guest speakers, laboratory assignments, internet activities, and other activities at the discretion of the instructor. These activities may be either face-to-face or online.

Grade Determination
The student will be graded on learning activities and assessment tasks. Grade determinants may include the following: class participation, out-of-class assignments, laboratory assignments, program design projects, examinations, and other methods of evaluation at the discretion of the instructor.