

Truman State University
Liberal Studies Program
Personal Well-Being Requirement

Test Out Procedure

The Personal Well-Being requirement of the Liberal Studies Program has the following educational objectives:

Health Knowledge Outcomes:

Relate basic knowledge of cardiovascular and muscular physiology to the roles of exercise, stress reduction, and weight management in decreasing the risk of disease.

Discuss patterns of addictive behavior; characteristics of alcohol, tobacco, and drug abuse, and the consequences of substance abuse to both short-term and long-term health.

Utilize the basic knowledge of macronutrients and micronutrients to analyze eating behaviors and to design a generalized diet based upon healthy dietary needs.

Discuss the formation of romantic relationships, the human sexual response, the consequences of common sexually-transmitted diseases, and effective methods of preventing sexually-transmitted diseases.

Outline common health needs through the life cycle, including the dominant health concerns of children, adolescents, young adults, middle-aged adults, and the elderly, along with effective intervention strategies for these needs in each stage of life.

Discuss the effect of environmental factors (e.g. hyperthermia, hypothermia, dehydration, etc.) as relates to reducing injuries associated with lifelong fitness activities.

Assess and monitor personal fitness levels (cardiovascular, muscular strength and endurance, body composition and flexibility) and design an appropriate personal fitness program.

Physical Activity Outcomes:

Demonstrate proper technique in at least one resistance training exercise for each major muscle group.

Demonstrate proper technique in stretching and strengthening activities designed to involve the entire body as well as to reduce the risk of low-back disability (e.g., abdominal exercises, hamstring flexibility exercises, etc.).

Demonstrate appropriate age- and sex-specific cardiovascular and muscular fitness levels, or show significant personal improvement towards health-related fitness norms.

Test-Out Procedure

Students who can demonstrate competency in these objectives through procedures established and administered by the Health and Exercise Sciences Program of the Human Potential and Performance Division will have this requirement waived, but no academic credit (in the form of semester hours) is awarded for the successful completion of the test-out procedure.

Students who desire to test-out should keep the following rules in mind:

- 1) Students are allowed only **one attempt** to test-out of the Personal Well-Being requirement. If the student fails either the written or the practical test, they must complete the Personal Well-Being requirement through another method (e.g., taking HLTH 195/196, MS 100-101).
- 2) Students who desire to attempt the test-out procedure must **register in advance** with the Health and Exercise Sciences Program office (<http://hes.truman.edu/testout.shtml>) prior to the established deadline. Students who have previously attempted the test-out procedure will be denied the opportunity to re-test (see #1 above).
- 3) Students will be required to **show photo identification** before taking either the written or the practical test and will be required to sign a document attesting to their identity.
- 4) The test-out procedure will take place on **two consecutive Tuesday evenings, and/or two consecutive Saturday mornings**. Students have two opportunities to take the written exam, however sign up must be completed prior to the established deadline. If the written exam is passed, students must take the practical exam exactly one week after the written exam. Students who do not pass the written test will not be allowed to take the practical test.
- 5) The written test consists of 100 multiple choice and/or true-false questions. Students must answer at least 80% of these questions correctly to pass the written test.
- 6) The practical test includes demonstrations of correct weight lifting, stretching, warm-up, cool-down, aerobic exercise, and heart rate monitoring techniques, in accordance with a pre-established testing rubric. Students must obtain at least 80% of the total possible points to pass the practical test.

Preparing for the Written Test

It is strongly suggested that all students prepare for the written examination by reviewing the comments contained in the HLTH 195 Study Guide at: <http://hes.truman.edu/testout.shtml>. Students are strongly encouraged to read the material in the referenced reading assignments in the course text for *Lifetime Health and Fitness* (HLTH 195): Insel, P. M., & Roth, W. T. (2006). *Core Concepts in Health 10th ed, Customized*. Boston, MA: McGraw-Hill. Since this is a customized version of the textbook (with extra information included in the textbook by Truman faculty), it can only be purchased at the Truman Bookstore located in the Student Union Building or the University Bookstore (Patty's) at 515 S. Franklin Street.

Sample Written Test

The following 10 questions closely reflect the content of the written test. Students who cannot answer at least seven of these questions correctly are strongly advised to continue their self-study efforts before signing up to take the written test. Remember, only **one attempt** to test-out of the Personal Health and Well-Being requirement is permitted.

1) The long-term stress hormone, responsible for converting muscle tissue and other proteins into energy, is called:

- A - endorphin
- B - acetylcholine
- C - oxytocin
- D - cortisol

2) In which of the following groups would ALL the drugs mentioned be classified as central nervous system stimulants?

- A - alcohol, caffeine, PCP
- B - caffeine, cocaine, nicotine
- C - caffeine, heroin, morphine
- D - LSD, PCP, heroin
- E - every substance listed above is a central nervous system stimulant

3) After exposure to HIV, it takes some time for *seroconversion*, or the appearance of antibodies. For this reason, a person who thinks they may have been exposed to HIV should get a blood test done immediately, and then to repeat this test after_____.

- A - one month
- B - three months
- C - six months
- D - one year
- E - two years

4) So-called type A personalities appear to be at particular risk for stress-related disease if:

- A - they love being busy and try to perform multiple tasks
- B - they avoid situations where there isn't anything to do

- C - they are angry and cynical
- D - they have a high degree of self-efficacy
- E - a combination of [A] and [D]

5) After participating in a cardiovascular (endurance) training program for six months, it is reasonable to expect:

- A - a decrease in blood plasma volume
- B - an increase in heart size
- C - a decrease in resting heart rate
- D - both [B] and [C]
- E - all of the above

6) Carbohydrate stored directly within the muscles (and liver) is called:

- A - Myoglobin
- B - Lactose
- C - Glycogen
- D - Fructose 7-phosphate

7) According to the American College of Sports Medicine (ACSM), what is the frequency of aerobic exercise needed to develop and maintain fitness in healthy adults?

- A - two to six exercise sessions per week
- B - three to five exercise sessions per week
- C - four or five exercise sessions per week
- D - five or six exercise sessions per week

8) According to the Surgeon General's Report, what is the frequency of resistance exercise needed to develop and maintain lean body mass in healthy adults?

- A - at least one resistance training session per week
- B - at least two resistance training sessions per week
- C - at least three resistance training sessions per week
- D - at least four resistance training sessions per week

9) Ronald has total serum cholesterol of 185 mg/dL.

- A - Ronald has an increased risk for coronary artery disease with regard to the "hypercholesterolemia" risk factor
- B - Ronald DOES NOT have an increased risk for coronary artery disease with regard to "hypercholesterolemia" risk factor

10) How many daily servings of vegetables are recommended by the USDA's MyPyramid for a 2000 calorie diet?

- A - 2
- B - 3
- C - 5
- D - 11

Answers:

- 1) Cortisol is a long-term stress hormone and a hormone which encourages the breakdown of protein as an energy source (through a process known as *gluconeogenesis*).
- 2) Caffeine, cocaine, and nicotine are all central nervous system stimulants. Alcohol is a central nervous system depressant; PCP and LSD are hallucinogenics, while heroin and morphine are narcotics.
- 3) After exposure to HIV, it can take up to six months for *seroconversion*, or the appearance of anti-bodies. As the HIV test looks for the presence of these anti-bodies, a person who thinks they may have been exposed to HIV should get a blood test done immediately (as a baseline) and then repeat this test after six months.
- 4) So-called type A personalities appear to be at particular risk for stress-related disease if they are angry and cynical, what has been termed the “toxic core” of type A behavior.
- 5) After participating in a cardiovascular (endurance) training program for six months, it is reasonable to expect an increase in blood plasma volume, an increase in heart size, and a decrease in resting heart rate, therefore [D] would be the correct answer.
- 6) Carbohydrate stored directly within the muscles (and liver) is called *glycogen*.
- 7) According to the American College of Sports Medicine (ACSM), healthy adults should engage in aerobic exercise three to five times per week to develop and maintain fitness.
- 8) According to the Surgeon General’s Report, healthy adults should engage in at least two resistance training sessions per week to develop and maintain fitness.
- 9) Any total serum cholesterol level at or above 200 mg/dL indicates an increased risk for coronary artery disease.
- 10) The USDA’s MyPyramid recommends 5 servings (2 ½ cups) of vegetables be eaten daily for a 2000-calorie diet.

Preparing for the Practical Test

Warm-up and cool-down. Students should know to precede any workout session with at least 10 minutes of warm-up activity, beginning movement at a slow pace and gradually building up to workout intensity. The warm-up phase should also include some stretching of the key muscle groups to be utilized. Students should also know to slow down gradually at the end of a workout session, decreasing exercise intensity gradually until the heart rate is below 60% of the predicted maximum heart rate. Stretching exercises are often most effective following a workout session because the muscles are warm.

Aerobic exercise and monitoring exercise intensity. Aerobic exercise must involve large muscles to demand an increased work load from the heart, and be rhythmic and continuous in nature in order to maintain return blood flow to the heart in a steady, uninterrupted stream, without intermittent fluctuation in blood pressure. Activities which meet this criteria include running, jogging, rapid walking, swimming, rowing, cycling, and cross-country skiing. Activities which *may* meet these criteria, depending upon how they are conducted, include aerobic dance, racquetball, soccer, and water polo. Activities which normally *do not* meet these criteria include basketball, baseball, football, volleyball, and tennis.

Students should know the correct position for determining (feeling) their own pulse at the carotid (throat) or radial (wrist) sites. Students should also be able to determine their heart rate training zone through the equation **$220 - \text{age in years} = \text{predicted maximum heart rate}$** ; **60% to 90% times predicted maximum heart rate.** For example, a twenty year old woman would have a predicted maximum heart rate of 200, and a heart rate training range of 120 (60%) to 180 (90%) beats per minute. (Note: the textbook, *Core Concepts in Health*, gives a heart rate training intensity of 55/65% to 90% of maximum heart rate, but most experts would cite the range 60% to 90%).

Resistance training. Students should be able to demonstrate an exercise for each major muscle group (chest, back, arms, legs, and abdominals). Resistance training exercises are illustrated on pages 107-119, which have been added at the end of Chapter 10 in the customized 10th edition of *Core Concepts in Health* by Insel, P. M. & Roth, W.T., published by McGraw-Hill, Boston, MA. In general, movements should be controlled (relatively slow), and participants should breathe in and out throughout the exercise, as holding one's breath can cause dangerous spikes in blood pressure. When gripping a weight bar or exercise machine grip, the thumb should be placed in opposition to the other fingers in order to decrease the chance of the bar or grip slipping out of one's hand.

Flexibility exercises and low-back exercises. Students should be able to demonstrate flexibility stretches for the calves, thighs (front, back, and inner thigh), shoulders/ upper back, and low back. In general, one should move into a stretching position slowly, and a stretch should be held for at least 20 seconds once a stretch is obtained. Students should also be aware of dangerous stretches and know to avoid these maneuvers. In addition, students should know that the three goals of preventing low back injury are 1) stretching the muscles of the low back and the back of the thigh (hamstrings), 2) strengthening abdominal muscles, and 3) controlling abdominal fat.

Flexibility exercises are illustrated on pages 139 to 143, which have been added at the end of Chapter 10 in the customized 10th edition of *Core Concepts in Health* by Insel, P. M. & Roth, W.T., published by McGraw-Hill, Boston, MA, while inappropriate stretches are illustrated on page 144.

Students will be asked a number of questions assessing their ability to apply their knowledge of exercise to everyday life. Some areas that may be covered include activity and illness/injury, planning an exercise program, and cardiovascular activities vs. resistance training. Grading will be based on thoroughness and accuracy of the answer.

Sample Practical Test

The following examples illustrate the content of the practical test. Remember, only **one attempt** to test-out of the Personal Health and Well-Being requirement is permitted.

Question One: Choose an appropriate activity for aerobic fitness, illustrate a method of monitoring heart rate during aerobic exercise, and describe the heart rate training zone appropriate for someone your age.

*The student should select an activity that 1) involves large muscle groups, 2) is rhythmic in nature, and 3) can be performed continuously (no stops and starts). Students should also be able to demonstrate the correct position for feeling their own pulse at the carotid (throat) or brachial (wrist) sites, and be able to determine their heart rate training zone through the equation $220 - \text{age in years} = \text{predicted maximum heart rate}$; **60% to 90% times predicted maximum heart rate**. For example, a twenty year old woman would have a predicted maximum heart rate of 200, and a heart rate training range of 120 (60%) to 180 (90%) beats per minute.*

Question Two: Demonstrate an exercise to build the muscles of the chest.

The student should be able to select a safe and effective exercise that builds the muscles of the chest, such as the Bench Press. If the Bench Press is selected, the student should demonstrate proper grip (with the thumb wrapped around the bar in opposition to the fingers; hands placed approximately shoulder width apart) and technique (lowering the bar close to the chest without touching the chest and continuing to breathe in and out during the lift).

Question Three: Demonstrate a stretch for the muscles on the back of the thigh (hamstrings).

*The student should be able to select a safe and effective stretching exercise for the hamstrings, such as the Modified Hurdler's Stretch. If the Modified Hurdler's Stretch is selected, the student should demonstrate proper position (seated on the floor or a table with one leg extended and the other leg tucked close to the body – **NOT** twisted behind them) and technique (slowly bending forward, reaching the hands towards the extended foot, and holding the stretched position at least 20 seconds).*

