Five components of Fitness Homework/Take Home Quiz
Due Tuesday 11/04 10/31 for BDF and Wednesday 11/05/14 for ACE and PE class

Use the following information to answer the following questions. Please hand in on the date homework/test is due. Your answers must be hand written and in complete sentences. Base your answers on the handout and your own research and experience.

This take-home test is worth 30 points, 20 points for your quiz and 10 points for homework. All answers must be hand written on a separate sheet of paper with your name and date.

Homework (10 Points)

1. Name and define the five components of fitness using complete sentences. (5 Points)

2. In a complete sentence give a specific example of how to improve each component of fitness. “I would run or I would lift weights or I would stretch” are not specific examples or a complete sentence. For example “I would improve my cardiovascular endurance by Jazzercising three times a week, 30-45 minutes each day” (5 Points)

Test (20 Points)

1. What is the best type of cardiorespiratory endurance training? (1 point)

2. How does cardiorespiratory endurance training improve health? (1 point)

3. Why is muscular strength important in real life? (1 point)

4. Which component of fitness allows a person to increase physical activity? (1 point)

5. What comes first, muscular strength or muscular endurance? Why? (2 points)

6. How is physical performance enhanced through the development of muscular strength and muscular endurance? (1 point)

7. What happens to your flexibility as you get older? (1 point)

8. What does improving flexibility help you decrease the chances of? (1 point)

9. After we warm up and before we jog in class, what kind of stretching do we do? (1 point)

10. What is a healthy fat mass for men and women? (1 point)
11. What health risks will you reduce by improving and maintaining body composition at a healthy level? (1 point)

12. What are the two factors that will affect body composition? (1 point)

13. Are the two factors that affect body composition controllable? How do you use these two factors to maintain a healthy level of body composition? (2 points)

14. Match the component of fitness with the portion of the fitness test that matches. (5 points)

1. Cardiovascular fitness _______ A. Push-ups
2. Muscular strength _______ B. Fat Loss Monitor, Calipers
3. Muscular Endurance _______ C. 1-mile run, Pacer Test
4. Flexibility _______ D. Curl-ups (sit-ups)
5. Body Composition _______ E. Sit & Reach, Shoulder Reach
5 COMPONENTS OF FITNESS

FITNESS
A combination of physical and mental attributes that allow you to: Meet the demands of everyday life and perform tasks that require ABOVE NORMAL EFFORT. Being physically and mentally fit decreases the chance of injury or bodily harm. Most importantly it can improve your quality of life.

There are 5 parts of fitness: 1) Cardiovascular Endurance, 2) Muscular Strength, 3) Muscular Endurance, 4) Flexibility and 5) Body Composition.

C - CARDIOVASCULAR ENDURANCE
The most important part of fitness!!! Having conditioned HEART and LUNGS that can supply the body with oxygen without stress to the heart. We develop it by doing Aerobic Exercise. Aerobic Exercise is continuous exercise lasting 2 or more minutes. In order to improve cardiovascular endurance, aerobic exercise should be performed at least 3 times per week, 30-45 minutes each day. Examples of aerobic exercise are swimming, running, biking, shoveling snow and raking leaves.

MS - MUSCULAR STRENGTH
The amount of force produced by a muscle. Needed for activities that require above normal effort. Having poor muscular strength will increase the chance of getting hurt when doing activities that require above normal effort. To increase your muscular strength, you would perform exercises using heavy weight and do the exercise 3-6 times. The muscles get stronger when they keep working past the point of fatigue (when the muscle has very little or no energy left). This forces the body to adapt (muscles get used to doing something, what was hard is now easy for the muscle). Remember it takes time to allow your body to adapt!!

ME - MUSCULAR ENDURANCE
The amount of force produced by a muscle over a period of time. This is also if the muscles are doing something over and over and over. Muscular endurance is also closely related to cardiovascular endurance. Why? Because in order to perform aerobic exercises long enough (at least 15 minutes) to benefit the heart and lungs, you need muscular endurance to be able to exercise continuously for this long. We improve muscular endurance by using light weight and do the exercise at least 15 times.

F - FLEXIBILITY
The looseness or elasticity of a muscle, which allows the joint to move through a full range of motion. This is the most neglected part of fitness. Flexibility is affected by: Gender, Age, Size and condition of muscle and Level of activity. Muscles should always be warmed (ballistic) before they are stretched. Static stretches should be held for 15-30 seconds. Poor flexibility increases risk of injury.

BC - BODY COMPOSITION
The percentage of body fat compared to lean body tissue. Lean body tissue is: muscle, bone, water & organs. A health problem if body fat percentage is not in the 5-30% range. Daily exercise and a healthy eating plan help improve or maintain a good body composition.
BMI = Body Mass Index measurement of Height and Weight only.
The five components of fitness are important for physical health. The five components of fitness are: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility and body composition. Maintaining healthy levels of fitness for each component helps a person live a healthy and productive life.

**Cardiorespiratory Endurance** – Cardiorespiratory endurance is the ability of the heart, blood, blood vessels and lungs to supply enough oxygen and necessary fuel to the muscles during long periods of physical activity.

The best type of cardiorespiratory endurance training is aerobic activities. Aerobic activities are those which force the body to use a large amount of oxygen for a sustained period of time. The heart becomes stronger and is able to pump more blood with each beat, which means the heart can beat at a slower rate and circulate the same amount of blood. This increased efficiency enables a person to work, exercise and play more often, more vigorously and for longer periods of time without getting tired.

Cardiorespiratory endurance training also improves appearance by toning the body and burning fat, which help to improve body composition. As personal appearance improves, a sense of well-being and a positive self-image is created. Cardiorespiratory endurance training improves health by reducing many of the effects caused by risk factors such as smoking, obesity, drug and alcohol abuse, heredity and age. These risk factors are associated with heart disease, type II diabetes, heart attacks and strokes.

**Muscular Strength** – Muscular strength is the ability of the muscle or muscles to push or pull with its total force. Increased muscular strength allows a person to lift, push, or pull with more force. Strength is always a benefit in any athletic situation but it is also important when the car has a flat tire, the door is stuck, or when the pickle jar cannot be opened.

**Muscular Endurance** – Muscular endurance is the ability of the muscles to repeat a movement many times or hold a position without stopping to rest. Improving muscular endurance allows a person to increase physical activity. A person with improved muscular endurance can accomplish more physical work by moving faster and taking fewer breaks. To improve muscular endurance, exercises should be repeated at least twelve times.

Muscular strength comes before muscular endurance. Before the brick layer can stack hundreds of bricks a day, he/she must have the muscular strength to lift the first brick. Once he/she has the initial strength to lift the first brick, the brick layer can begin to build muscular endurance.

The old adage, “If you do not use them you will lose them”, is true. Muscles react positively to strenuous activity and negatively to inactivity. When the body is inactive, a large percentage of strength is lost over time. Building muscle is like putting money in the bank; it creates independence in later years. One of the best ways to build muscular strength and muscular endurance is through resistance training, or activities that place an additional force against the muscle or muscle group. Some examples of resistance training include: weight training, push-ups and crunches.
As the body ages, bone density tends to decrease which can lead to weak bones (osteoporosis). Building muscular strength and muscular endurance through resistance training, along with an active lifestyle, have been shown to improve bone density.

Physical performance will be enhanced through the development of muscular strength and muscular endurance. As muscles become stronger, physical performance is improved. Improving muscular strength and muscular endurance gives the body the ability to work, exercise or play more often, with more power and for longer periods of time.

Developing muscular strength and muscular endurance helps improve physical appearance. Resistance training helps control body composition by increasing muscle mass which is a part of fat-free mass. Muscles act as tiny furnaces that burn fat. The more muscle mass the body has, the more calories that can be burned. Building muscular strength and muscular endurance is a lifelong habit needed to maintain or improve physical appearance.

Flexibility – Flexibility is the muscles’ ability to move a joint through a full range of motion. As the body ages, the muscles, tendons and ligaments stiffen and become less flexible. For example, when the shoulder muscles stiffen, the ability to throw is hindered because the arm will not move through the entire motion. Staying flexible is important to health and performance. Improving flexibility decreases a person’s risk of injury, prevents post-exercise pain and helps relieve emotional tension.

The two stretching methods that are safe and effective are Dynamic and Static stretches. Dynamic stretches involves moving parts of the body continuously while gradually increasing reach, speed of movement or both that take a person gently to the limits of their range of motion. Static stretches involves stretching a muscle to the point of mild discomfort by holding it in a maximal stretch for an extended period. These stretches can be performed as part of the warm-up and/or cool down phases of a fitness program or as a separate flexibility program.

Body Composition – Body composition is the combination of fat-free mass and fat mass. This is everything the body is made of, including fat, bones, muscles, organs and water. Healthy levels of fat mass are essential for insulation of organs, the absorption of vitamins, nerve conduction and as an energy source.

Having too much or too little fat mass can become a health risk, lowering performance and detracting from appearance. A healthy level of fat mass for men is 10%-20% and a healthy level of fat mass for women is 15%-25%. Improving and maintaining body composition at healthy levels will reduce the risk of heart disease, type II diabetes, high blood pressure, strokes, certain types of cancer and obesity.

Body composition is affected by two factors; the number of calories eaten (energy in) and the amount of activity performed and calories burned (activity out). Both of these factors are controllable. A combined effort of eating a healthy diet (energy in) and increasing physical activity (activity out) is the best approach to maintaining a healthy level of body composition.
• **Body Composition** – The combination of fat-free mass and fat mass

• **Cardiorespiratory Endurance** – The ability of the heart, blood, blood vessels and lungs to supply enough oxygen and necessary fuel to the muscles during long periods of physical activity

• **Flexibility** – The muscles' ability to move a joint through a full range of motion

• **Muscular Endurance** – The ability of the muscles to repeat a movement many times or hold a position without stopping to rest

• **Muscular Strength** – The ability of a muscle or muscles to push or pull with its total force

• **Static Stretches** – Involves stretching a muscle to the point of mild discomfort by holding it in a maximal stretch for an extended period.

• **Dynamic Stretches** – Involves moving parts of the body continuously while gradually increasing reach, speed of movement or both gently through a full range of motion. Stretching performed while in motion.

• **Resistance Training** – An activity that places an additional force against the muscle or muscle group.