

# Lakes Community High School

## Physical Education

### *Physical Best*

ELECTIVE 10-12, 1 YEAR, 1 CREDIT

PREREQUISITE: "C" OR BETTER IN PHYSICAL EDUCATION OR CURRENT TEACHER RECOMMENDATION

*This class is designed to meet the needs of our school's ADVANCED physical education students. The class will provide a structured environment to allow students to concentrate on improving their overall fitness. This class will provide an advanced level of hypertrophy, strength, endurance, plyometrics, and speed and agility training, along with education in other fitness and nutrition principles.*

#### Uniform Policy

- All students are to wear the complete school P.E. uniform. Anything else will result in a no dress for the day. (Complete uniform = school issued shorts and shirt, gym shoes). A no dress will be given to the student who does not dress for any reason other than a doctor's note. A no dress will result in the loss of points for the day. Rental uniforms are available before class for \$1 each.
- Uniforms are to be taken home each Friday and washed. Dirty or smelly uniforms will also result in a no dress.

#### Grading

- Grading will be on a daily basis. There is a possibility of earning 3 points per day: 1 point for attendance and punctuality; 1 point for effort and participation; and 1 point for behavior. Daily points will equal 70% of the unit grade. Assessments and/or homework will total 30% of the unit grade. Unit grades will equal 80% of the semester grade, and a final assessment will be worth 20% of the final semester grade.

#### Rules and Expectations

*Respect + Courtesy = Pride*

- All students are expected to learn proper warm-up and stretching procedures, rules of play, and exhibit sportsmanship.
- Students will be treated with respect and are expected to treat each other and teachers with respect.
- Students should be on time to both the locker room and attendance squad. Tardies will be noted and loss of points will result.
- Students are to remain in the locker room at the end of the period until the bell sounds unless told otherwise by teacher.
- No eating or drinking in the gyms, classroom or locker room at anytime.
- If a medical condition results in not being able to participate, a doctor's note will be necessary to excuse you from physically participating for that period. Alternate assignments will be assigned.
- Assignments are to be turned in before the start of the next class session.
- Students may not hang on the goal posts, goals, basketball rims, or any nets. This is a safety issue. Failure to comply will result in disciplinary action.

#### Class Structure

We will lift Monday, Wednesday and Friday in the fitness room, lecture Tuesday and complete fitness activities Thursday. This schedule is subject to change depending on other PE classes in session. Exercise programs will be provided and are mandatory to complete each

class period, failure to do so will result in loss of points for that day. Safety precautions will be discussed the first week of activity and should be followed on a daily basis.

Each week we will cover a topic related to the world of strength and conditioning benefiting our athletes and recreational fitness enthusiasts; the following are examples of topics to be covered: components of health-related or skill related fitness, nutrition, hot topics within strength and conditioning, goal setting, anatomy, physiology, periodization principles and opportunities within the world of fitness to remain active post-high school.

*The following are 23 weeks of content topics to be covered within a year of Physical Best curriculum; the content may differ in delivery specific to individual instructor.*

### **Introductions and Orientation to Fitness Center; What is Physical Best?**

Week 1: Introduction to the fitness center and equipment, safety precautions, spotting guidelines and expectations of behavior within. An explanation of the purpose of Physical Best will be given to provide students' with an objective of the course and direction to expect for the remainder of the year.

### **Fitness Testing**

Week 2: Fitness testing protocols for Physical Best are different from the regular Physical Education courses offered at Lakes, the following are the assessments used to test our students' fitness levels: Mile, Pacer, T-test, Medicine Ball throw, Pull Ups, Push Ups, Sit Ups, 3RM Squat, 3RM Bench, Sit & Reach, and Dips.

### **Health-Related Fitness Components**

Week 3: Fitness can be defined in many different ways. To some people fitness might mean a slim waistline, to others it could be the ability to bench press their body weight. When our students look at fitness it is important for them to understand the whole picture. It's not just about strength, endurance or fat content, but a combination of all of these. Listed below are five key components important to a valid definition of fitness, our goal is to provide our students with an understanding that a balance is the goal to permeate your overall well-being. (Muscular Strength, Muscular Endurance, Flexibility, Body Composition, Aerobic Endurance)

### **Goal Setting**

Week 4: Clearly defined goals improve one's ability to achieve them. Goals should be measurable, under your personal control, challenging, and must be stated in the positive. After determining your first goal, you may have one or two others that are important to assisting in achieving the main goal (benchmarks).

**\*\*Students develop personal goals to work towards for first semester. Journaling will occur bi-weekly on progress and/or struggles encountered throughout semester.**

### **FITT Principle**

Week 5: To prescribe a personal fitness program, the FITT principle will help our students to understand the components needed to establish an appropriate and productive program designed to their abilities and training needs. Each component of the FITT principle will be explained and example programs will be available to assist in the development of individual programs.

**\*\*Students will design individual programs while identifying progression and overload to attain fitness improvements.**

### **Functional Physiology and Anatomy**

Week 6: Anatomy and physiology of muscle groups is a vital component to training and program design. Identifying the muscle being trained, the function of that muscle, the response to training, and the exercises that produce productivity for that muscle are all components of anatomy and physiology covered.

### **Target Heart Rate**

Week 7: Intensity within endurance training is measured by individual heart rates. Training at different training zones will maximize productivity within workouts, enabling our students to get the most from their workouts. The concept of training to specific heart rate zones is explained and applied to endurance and speed work within fitness day activities.

**\*\*Students will calculate personal heart rates, maximum heart rates and target heart rates in relation to different training zones.**

### **Functional Physiology and Anatomy**

Week 8: Basic muscle identification will enable our students to familiarize the function of each muscle and purpose of sport specific training.

**\*\*Students will choose a muscle and deliver a presentation of that muscle, the function of the muscle, exercise to maximize muscle productivity, spotting cues for exercise, and sport specific functions of the muscle identified.**

### **Cardiovascular Endurance Training Methods**

Week 9: Cardiovascular or aerobic endurance is the body's ability to exercise whole muscle groups over an extended period of time at moderate intensity, utilizing aerobic energy. Your aerobic system uses oxygen to break down carbohydrates and convert them into lasting energy. Aerobic exercise increases heart rate, strengthening the heart's ability to contract. Stronger contractions mean an improved, stronger blood flow, in turn making a body better equipped for exercise. Tips for building cardiovascular endurance will be provided as well as opportunities to apply these principles to training during fitness days and endurance exercise.

### **Muscular Endurance Training Methods**

Week 10: Muscular endurance is one of the five health-related fitness components. Defined as the measure of how well muscles can repeatedly generate force, and the amount of time they can maintain activity, muscular endurance is important for almost every fitness activity. Examples of programs specific to muscular endurance are covered as well as the importance of overload and progression within periodization of programs.

**\*\*Students will design a muscular endurance program specific to sport according to components of a muscular endurance cycle (2-3 weeks, 12-20 repetitions, < 45 sec rest, 2-3 sets/muscle group).**

### **Muscular Strength [Hypertrophy] Training Methods**

Week 11: Hypertrophy programs are developed to increase the size of muscle tissue throughout the body. This training method is a good starting point for individuals that have not lifted before or are cycling off of other types of programs.

\*\*Students will design a hypertrophy program specific to a sport according to guidelines (4-8 weeks, 3-10 sets/muscle group, 6-12 repetitions, 60-90 sec rest).

#### **Muscular Strength [Strength] Training Methods**

Week 12: Strength programs are designed to further increase the amount of muscle tissue. Ultimate muscle growth will occur in this type of program with correct lifting techniques.

\*\*Students will design a strength program specific to a sport according to guidelines (3-4 weeks, 3-5 repetitions, 3-5 sets/muscle group, 2-3 min rest).

#### **Sport/Activity Specific Training Methods**

Week 13: Sport-specific training focuses on the function of the muscle utilized within the activity. For example, a sprinter needs explosive muscular contraction, furthering the fast twitch muscle fiber efficiency. Peak power and speed workouts should be focused on to enable the sprinter to maximize performance. Students will identify personal activities and specific training principles tailored for their individual sports.

#### **Periodization**

Week 14: To promote long-term training and performance improvements, include variations in training specificity, intensity, and volume organized in planned periods or cycles within an overall program. The General Adaptation Syndrome will be covered to emphasize the different reactions of the human body to resistance training (alarm phase, resistance phase, and exhaustion phase). Periodization involves shifting training priorities from non-sport-specific activities of high volume and low intensity to sport-specific activities of low volume and high intensity over a period of many weeks to prevent overtraining and to optimize performance.

#### **Alternative Exercises**

Week 15: Alternate exercises will be presented within class to initiate the comprehension of alternate methods of training. Group collaboration will maximize the outcome of ideas for alternate exercises to promote muscle function and diminish the possibility of overtraining.

\*\*Students will present alternative exercise for a specific muscle.

#### **Benefits of Physical Activity**

Week 16: Physical, emotional and social benefits are proven side affects of living a healthy and active lifestyle. It is important that our students understand the correlation between physical activity and well-being.

\*\*Students will research physical activity and its positive affects on individuals and reflect on their own lives and how it has benefited them throughout their lives.

#### **Flexibility**

Week 17: Flexibility is the ability to stretch your muscles as well as the tendons and ligaments that connect the muscles to your bones. An increase in flexibility occurs by stretching the elastic fibers beyond their usual limits and maintaining that stretch, usually 30 seconds to acquire full benefit. Increased flexibility decreases the risk of injury while exercising, and

increases exercise performance. Stretching specifics to be covered, when to stretch, how to stretch, as well as different types of stretching.

### **Body Composition**

Week 18: Body composition describes the percentages of fat, bone and muscle within the body. These percentages provide an overall view of your health and fitness in relation to your weight, height, and age. A higher percentage of fat in relation to the bone and muscle build up poses health risks ranging from heart disease, high blood pressure and diabetes. Healthy ranges for females and males will be provided for students as well as individual assessments of body composition.

### **Nutrition**

Week 19: Most athletes have two basic dietary goals: eating to maximize performance and eating for optimal body composition. Whether the diet is designed to enhance performance, prevent disease, or both, two fundamental components of the diet must be monitored: appropriate Calorie level, and appropriate nutritional levels to prevent nutrient deficiency or toxicity. Because athletes, especially elite and professional athletes, have different needs from those of the general population, the dietary guidelines may need to be adjusted to meet the dietary requirements specific to the athlete's training program. The USDA Food Guide Pyramid will be the foundation for our students' nutritional content with adjustments for individual athlete needs, in turn making nutrition sport-specific.

### **Ergogenic Aids/Supplements**

Week 20: Ergogenic Aids may directly influence the physiological capacity of a particular body system thereby improving performance, remove psychological constraints which impact performance, and/or increase the speed of recovery from training and competition. Ergogenic Aids fall into the following categories: Physiological, Mechanical, Nutritional, Pharmacological, and Psychological. Students will learn the difference between the categories and how each can either help or hinder their training.

### **Eating Disorders**

Week 21: Eating Disorders such as anorexia, bulimia, and binge eating disorder include extreme emotions, attitudes, and behaviors surrounding weight and food issues. Recognize that bodies come in all different shapes and sizes. Our students will receive information to further their understanding of what eating disorders are, why individuals develop eating disorders and what detrimental affects can occur because of eating disorders.

### **Skill-Related Fitness Components**

Week 22: Skill-Related fitness components are important to the development of all individuals. Athletes can benefit from focus on skill-related fitness components by concentrating on sport-specific components and creating a balance of skills to develop a well-trained, multi-dimensional athlete. Agility, balance, coordination, speed, power, and reaction time are all skill-related fitness components.

### **Plyometrics**

Week 23: Speed and strength are integral components of fitness found in varying degrees in virtually all athletic movements. Simply put the combination of speed and strength is power. Training for power or explosiveness has been termed plyometrics. This method of training which seeks to enhance the explosive reaction of the individual through powerful muscular contractions is a result of rapid eccentric contractions. Our students will learn basic concepts for plyometric training as well as perform plyometric workouts to further their speed and strength gains.

## Tentative Course Outline

*Monday, Wednesday and Fridays we will be in the Fitness Room  
 Tuesday will be content-based  
 Thursday will be an activity day*

<b>Week</b>	<b>Healthy Active Lifestyle Focus</b>	<b>Due Date</b>
8/20 - 8/24	Introductions and Orientation to Fitness Center; What is Physical Best?	
8/27 - 8/31	Fitness Testing	
9/4 - 9/7	Health-Related Fitness Components	
9/10 - 9/14	Goal Setting; Personal Goals	9/14/07
9/17 - 9/21	FITT Principle; What is it, why is it important?; **Prescribe own FITT program/identify progression and overload / component	9/21/07
9/24 - 9/28	Functional Physiology; Handouts	
10/1- 10/4	Target Heart Rate Calculation	10/4/07
10/9 - 10/12	Functional Anatomy; Handouts	
10/15 - 10/19	Anatomy/Physiology Quiz	
10/22 - 10/26	Training Methods; Cardiovascular Endurance	
10/29 - 11/1	Training Methods; Muscular Endurance [circuit training]	
11/5 - 11/9	Training Methods; Muscular Strength [hypertrophy]	
11/12 - 11/16	Training Methods; Muscular Strength [strength]	
11/19 - 11/21	Sport/Activity Specific Training [power]	
11/26 - 11/30	Periodization [Progression and Overload]	
12/3 - 12/7	Alternative Training Exercises worksheet	12/7/07
12/10 - 12/14	Benefits of Physical Activity	
12/17 - 12/21	Review for exam	
1/7 - 1/11	Semester Exam	
1/14- 1/17	Review and update goals	1/17/08
1/22 - 1/25	Fitness Games	
1/28 - 2/1	Flexibility	
2/4 - 2/8	Body Composition and Image; Body Comp/Image Article	2/8/08
2/11 - 2/14	Nutrition; journal	
2/19 - 2/22	Nutrition journal with reflections due	2/22/08
2/25 - 2/29	Ergogenic Aids/Supplements	
3/4 - 3/7	Eating Disorders/Overtraining	
3/10 - 3/14	Eating Disorders/Overtraining Article Reflection Due	3/14/08
3/31 - 4/4	Muscle action Power Point	
4/7 - 4/11	Power Points Due	4/11/08
4/14 - 4/18	Skill-Related Fitness Components	
4/21 - 4/25	Plyometrics	
4/28 - 5/2	5K run	
5/5 - 5/9	Outdoor Pursuits	
5/12 - 5/16	Program Design	
5/19 - 5/23	Programs Due	5/23/08
5/27 - 5/30	Modified Triathlon	
6/2 - 6/6	Final Exam	