Cooking tools

- How many have a microwave?
- Crockpot? Walmart or Target ($20)
- Wok?
- Big skillet?
- Casserole dish?

- Dollar store for cheap cooking utensils (spatulas etc, walmart or target for cheap cookware (skillet, crockpot, casserole dish) Chances are your family may have some extras around.
Go around to recipes.

- One dinner recipe per table
Cooking tips

• Quick microwave snacks:
  • Popcorn or air popped popcorn- 30 cal/cup
  • Hard boiled eggs
  • Canned tuna in water

• Baked potatoes (4 min/flip over/4 min) or until soft when poked with a fork- add salsa and cheese. ~100-200 cal

• Steamed veggies (can usually steam them in the bag... approx 3 min)- add cheese.

• Quesadillas- flour tortilla, cheese. Fold tortilla, melt, dip in salsa.
Crock pots are fun (and cheap)

- Can put in chicken thighs and some vegetables and perhaps beans. And will have dinner ready when you get home. Cheap crock pots at target.

- Frozen Vegetables!

- Rice (bring water to a full boil) have twice as much water as rice. Will have the full amount of what the water was. 1 cup water, \( \frac{1}{2} \) cup rice = 1 cup cooked rice.

- Cheap places to shop, target, food max.

2/17/16
Quick go to recipes

- Casserole dish: add 1 cup rice, chicken pieces, chicken broth, carrots, potatoes, peas. Cook in the oven at 350 for about 45 minutes or until chicken parts juice runs clear.
  - You can do this while you are studying.

- Soup over rice and added frozen veggies

- Stir fry: put veggies (frozen are fine) in wok with some oil... cook veggies add chopped chicken or beef or tofu... it’s done!
Cost Comparison of cooking at home versus fast food

- Bag of frozen veggies $1.25-$2.00 per pound
- Chicken breasts or thighs $2.99-3.99 per pound
- Potatoes $.99 to 1.99 a lb
  - Loaf of bread $2.99-4.99
  - Lunch meat $3.99 lb or less if buy a big bag at Costco
  - Romaine lettuce $1.99-2.99 for 3-6 heads
  - Costco whole chicken $4.99
- Herbs/spices cheap at food max/grocery outlet and last a long time
- One Whopper Burger $4.49/ or combo $6-$7

2/17/16
Levels of physical activity have declined in recent years and remain low for all Americans.

The Centers of Disease Control and Prevention (CDC) reported the following:

- 31% participate in some leisure activity
- 40% are physically inactive
- About 12% of Americans report exercising vigorously for 20 minutes 3 times per week, but actual studies show only 3% meet that parameter.
- 54% of Americans with graduate degrees exercise compared to only 37% of high school dropouts.
Physical Activity on a Continuum

- **Physical activity** is movement carried out by the skeletal muscles that requires energy.
- **Exercise** refers to planned, structured, repetitive movement intended to improve or maintain physical fitness.
- Levels of fitness depend on the following:
  - Heart’s ability to pump blood
  - Energy-generating capacity of the cells
  - % heart rate you work at
- Physical activity is essential to health and confers a wide variety of health benefits.
Increasing Physical Activity to Improve Health and Wellness

- 2008: The U.S. Dept. of Health and Human Services recommends the following:
  - 150 minutes of moderate-intensity aerobic exercise, or 75 minutes of vigorous-intensity aerobic exercise, per week
  - Increase the volume and intensity of an exercise for more health benefits
  - Healthy adults should do resistive exercises at least twice a week
  - Examples of moderate physical activity:
    - Brisk walking
    - Dancing
    - Swimming
    - Cycling
    - Yard work
  - Example of vigorous exercise: jogging
Max Heart Rate

- 220 – age

- Want to Exercise at 60-75% of this
  - $200 \times 0.6 = 120$ bpm
  - $200 \times 0.75 = 150$ bpm

- When to warm up?

- When to increase range of motion?
Current Levels of Physical Activity among American Adults

**Figure 2.1** Reported physical activity by American adults, 1997–2006.

Components of Health-related Fitness

- There are many areas of fitness which help establish health benefits
- Health-related fitness helps you withstand physical challenges and protects you from diseases

- Some components:
  - Cardiorespiratory Fitness
  - Muscular Strength
  - Muscular Endurance
  - Flexibility
  - Body Composition
  - Mental Fitness
  - Stress Reduction
  - Nutrition
Cardiorespiratory Fitness

- Ability to perform prolonged, large muscle, dynamic exercise at moderate to high levels of intensity.
  - Depends on the ability of the lungs to deliver oxygen from the environment to the bloodstream and the efficiency of the heart and nervous system.
- When cardiorespiratory fitness improves:
  - The heart pumps more blood per heartbeat (increased stroke volume)
  - Resting heart rate slows
  - Blood volume increases
  - Blood supply to tissue improves
  - The body can cool itself better (increased vasodilation)
  - Resting blood pressure decreases
  - Improved ability to sleep
- Activities should be continuous, rhythmic movements of large muscle groups.
- Cardiorespiratory endurance exercise examples:
  - Walking
  - Jogging
  - Cycling
  - Aerobic dancing
  - Other....?
Muscle Strength and Endurance

- **Muscular Strength** is the amount of force a muscle can produce in a single maximum effort
  - Benefits: Activities of daily living

- **Muscular Endurance** is the ability to resist fatigue and sustain a given level of muscle tension for a given time.
  - Benefits include:
    - Increased body mass
    - Increased metabolism
    - Increased bone density
    - Improved self-confidence and ability to manage stress
Flexibility

- The ability to move the joints through their full range of motion
- Flexibility is affected by many factors such as joint structure, length and elasticity of connective tissue, and nervous system activity.
- Flexibility is needed in everyday routines.
- Benefits include:
  - Lowered risk of back injuries
  - Promotion of good posture and decreased risk of other joint injuries
  - Reduction in age-related stiffness
  - Increased circulation between joints
  - Lower/no joint pain
Body Composition

- The proportion of fat and fat-free mass (muscle, bone, water) in the body
- Healthy body composition is comprised of high levels of fat-free mass and an acceptable low level of body fat.
- The relative amount of body fat a person has does have an impact upon overall health and fitness.
- Too much body fat could have the following effects:
  - Heart disease
  - Insulin resistance
  - High blood pressure
  - Stroke
  - Joint problems
  - Type II Diabetes
  - Gallbladder disease
  - Cancer
  - Back pain
- The best way to lose fat is through exercise and a sensible diet.
  - (calories in less than calories out)
  - How to figure out how much to eat. Figure out base line calories where you neither gain or lose weight

2/17/16
Body Composition

- The best way to lose fat is through exercise and a sensible diet.
  - (calories in less than calories out)

- How to figure out how much to eat. Figure out baseline calories where you neither gain or lose weight.

- How to calculate energy needs:
  - Lab 9.1 and 9.2

  BMR (Basal Metabolic Rate) calculator sites:

  - [http://www.bmi-calculator.net/bmr-calculator/](http://www.bmi-calculator.net/bmr-calculator/)

  My fitnesspal calorie website

- Also WHEN to eat. Eating late at night will increase body core temp and also calories have no where to go. That is why some people take a walk after dinner (or walk their dog after dinner).

- I would suggest stopping eating/ingesting calories at least 4 hours before bedtime.
Skill-Related Components of Fitness

- **Speed**: the ability to perform a movement in a short amount of time.
- **Power**: the ability to exert force rapidly, based on a combination of strength and speed.
- **Agility**: the ability to change the position of the body quickly and accurately.
- **Balance**: the ability to maintain equilibrium while moving or while stationary.
- **Coordination**: the ability to perform a motor tasks accurately and smoothly using body movements and the senses.
- **Reaction and Movement Time**: the ability to respond and react quickly to a stimulus.

*Skill-related fitness tends to be sport specific and is best developed through practice*
Principles of Physical Training: Adaptation to Physical Stress (e.g. exercise)

- The goal of physical training is to produce these long-term changes and improvements in the body’s functioning.
- Over time, immediate, short-term adjustments translate into long-term changes and improvements.
- These principles include:
  - **Specificity**: the training principle that the body adapts to the particular type and amount of stress placed on it.
  - **Progressive overload**: the training principle that placing increasing amounts of stress on the body cause adaptations that improve fitness.
  - **Reversibility**: the training principle that the body will return to its original homeostatic state when amount of physical stress is removed for a specific time.
  - **Individual differences**: each individual’s body adapts to the stress differently.
Specificity: Adapting to Type of Training

- SPECIFICITY: Developing a particular fitness or skill component, you must perform exercises designed specifically for that skill.

- Weight training will develop muscular strength but will not be very effective in improving cardiorespiratory endurance or flexibility.

- A well-rounded exercise program includes all components of fitness designed to improve different parts of the body or towards specific sport activities
Progressive Overload: Adapting to Amount of Training and the FITT Principle

- The amount of overload is important since too little will not have much effect upon fitness levels and too much will increase the likelihood of an injury.
- PROGRESSION: is critical since exercising at the same levels will not provide adaptations and can lead to a plateau.
- **FITT**: a principle for overload
  - **Frequency**—How often
  - **Intensity**—How hard
  - **Time**—How long (duration)
  - **Type**—Mode of activity
Reversibility: Adapting to a Reduction in Training

- The body adjusts to low levels of activity the same way that it does to higher levels.
- Fitness is a reversible adaptation.
- If you stop exercising, up to 50% of fitness improvements are lost within 2 months.
- Not all fitness improvements are lost within 2 months.
- Strength fitness can be maintained as infrequently as once a week compared to cardiovascular or cellular fitness levels.
Designing Your Own Exercise Program

- Medical clearance
  - Men under the age of 40 and women under 50: exercise is probably safe
  - PAR-Q
  - GXT

- Assessment
  - Assess your fitness level for all 5 health-related fitness components

- Set goals
- Choose activities for a balanced program
Figure 2.3 Physical Activity Pyramid

**Sedentary Activities**
Do infrequently
Watching television, surfing the Internet, talking on the telephone

**Strength Training**
2–3 nonconsecutive days per week (all major muscle groups)
Bicep curls, push-ups, abdominal curls, bench press, calf raises

**Cardiorespiratory Endurance Exercise**
3–5 days per week (20–60 minutes per day)

**Moderate-Intensity Physical Activity**
150 minutes per week; for weight loss or prevention of weight regain following weight loss, 60–90 minutes per day

**Flexibility Training**
At least 2–3 days per week, ideally 5–7 days per week (all major joints)
Calf stretch, side lunge, step stretch, hurdler stretch

**Walking, Jogging, Bicycling, Swimming, Aerobic Dancing, In-Line Skating, Cross-Country Skiing, Dancing, Basketball**

Walking to the store or bank, washing windows or your car, climbing stairs, working in your yard, walking your dog, cleaning your room

**Figure 2.3** Physical activity pyramid.
Figure 2.4 Health and fitness benefits of different amounts of physical activity and exercise

<table>
<thead>
<tr>
<th>Description</th>
<th>Moderate physical activity</th>
<th>Moderate exercise program</th>
<th>Vigorous exercise program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moderate physical activity</strong></td>
<td>Cardiorespiratory endurance exercise (20–60 minutes, 3–5 days per week); strength training (2–3 nonconsecutive days per week); and stretching exercises (2 or more days per week)</td>
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</tr>
</tbody>
</table>
| **Sample activities or program** | • Walking to and from work, 15 minutes each way  
• Cycling to and from class, 10 minutes each way  
• Doing yard work for 30 minutes  
• Dancing (fast) for 30 minutes  
• Playing basketball for 20 minutes  
• Muscle exercises such as push-ups, squats, or back exercises | • Jogging for 30 minutes, 3 days per week  
• Weight training, 1 set of 8 exercises, 2 days per week  
• Stretching exercises, 3 days per week | • Running for 45 minutes, 3 days per week  
• Intervals, running 400 m at high effort, 4 sets, 2 days per week  
• Weight training, 3 sets of 10 exercises, 3 days per week  
• Stretching exercises, 6 days per week |
| **Health and fitness benefits** | Better blood cholesterol levels, reduced body fat, better control of blood pressure, improved metabolic health, and enhanced glucose metabolism; improved quality of life; reduced risk of some chronic diseases  
Greater amounts of activity can help prevent weight gain and promote weight loss | All the benefits of lifestyle physical activity, plus improved physical fitness (increased cardiorespiratory endurance, muscular strength and endurance, and flexibility) and even greater improvements in health and quality of life and reductions in chronic disease risk | All the benefits of lifestyle physical activity and a moderate exercise program, with greater increases in fitness and somewhat greater reductions in chronic disease risk  
Participating in a vigorous exercise program may increase risk of injury and overtraining |

FIGURE 2.4 Health and fitness benefits of different amounts of physical activity and exercise.
Guidelines for Training

- Train the way you want your body to change
- Train regularly
- Start slowly and get in shape gradually
- Warm up before exercise
- Cool down after exercise
- Exercise safely
- Listen to your body and get adequate rest
- Cycle the volume and intensity of your workouts

- Try training with a partner
- Vary your activities
- Train your mind
- Fuel your activity appropriately
- Have fun
- Track your progress
- Keep your exercise program in perspective
Figure 2.5 Progression of an Exercise Program

![Progression of an Exercise Program](image)

**FIGURE 2.5 Progression of an exercise program.** This figure shows how the amount of overload is increased gradually over time in a sample walking program. Regardless of the activity chosen, it is important that an exercise program begin slowly and progress gradually. Once you achieve the desired level of fitness, you can maintain it by exercising 3–5 days a week.

Principles of Physical Fitness

Chapter Two