GEORGE MASON UNIVERSITY
School of Recreation, Health, and Tourism

PHED 105 – A01
Aerobics and Basic Conditioning (1)

Summer 2015
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DAY/TIME: MTWR 1030-1145am
5/18-6/8
LOCATION: AFC – Classroom 112 (Back Half)

PROFESSOR: Dr. Fred Schack
EMAIL ADDRESS: fschack@gmu.edu

OFFICE LOCATION: RAC 2108
PHONE NUMBER: 703-993-8522

OFFICE HOURS: By appointment
FAX NUMBER: 703-993-4425

PREREQUISITES: None

COURSE DESCRIPTION
The purpose of the class is to introduce students to fitness and healthy lifestyles. The course is designed to provide students with four lectures and multiple cardiovascular workouts. The lectures include cardiovascular endurance, cardiovascular diseases, body composition, nutrition, and weight management. The class also teaches students how to use cardiovascular equipment and how to design an aerobic fitness program. The course is geared for beginners, yet all students will be helped on an individual basis (therefore advanced individuals can also participate).

COURSE OBJECTIVES
At the completion of this course students should be able to:

1. Maintain a bout of aerobic exercise at a target heart rate of 60-85% of maximum heart rate for at least 20 minutes.
2. Define and calculate target heart rate and determine personal ranges.
3. Design an aerobic fitness plan that meets your current level of aerobic fitness.
4. State and differentiate between at least three different ways to condition the body aerobically.
5. Improve the student's health, wellness, and quality of life, and state at least one personal value of how aerobic conditioning contributes to lifetime fitness.

REQUIRED READINGS AND VIDEO REVIEWS
Handouts
ToxicBrew (~ 9") (Copy and paste this link into your browser and watch Part 1.)
http://nontoxicfamily.wordpress.com/toxic-brew-part-1/

Obesity and Health Effects (~ 5")
– http://www.youtube.com/watch?v=wOGV6QA3_hQ (2")
– http://www.youtube.com/watch?NR=1&v=VHSDIKw8_ss&feature=endscreen (3")

Vitamin D & A (attached) – Go to end of Lecture 1

OPTIONAL
FLU Vaccine – yes or no? (My answer is NO – please check these sites for research based studies)


Statin Drug Issues:
Does High Cholesterol REALLY Cause Heart Disease? An Interview with Uffe Ravnskov, MD, PhD
(http://articles.mercola.com/sites/articles/archive/2009/12/05/does-high-cholesterol-really-cause-heart-disease.aspx)


The Dangers of Statin Drugs: What You Haven’t Been Told About Cholesterol-Lowering Medication


Depression – This is about a 5” personal life overview showing how one might handle the “down times” in one’s life
http://www.youtube.com/watch?v=MslbhDZoniY
– https://docs.google.com/file/d/0ByFUzo9KwryWWkRwUEw4bmZNaVk/view?pli=1&sl=139

   a. Read the Executive Summary

What’s in McDonald’s Products – See Lecture 1

CLASS INFORMATION
1. Students with injuries or pre-existing conditions that may affect performance must inform the instructor.
2. Most of the communication will be through GMU e-mail.

EVALUATION
1 Written Exam – 20% (20-Question Multiple Choice Exam from Lectures 1-3, highlighted addendum on sugar, & Dropbox video on exercise and aging, [https://www.dropbox.com/s/fo75nxlsdwxka3e7/New%20Science.mp4](https://www.dropbox.com/s/fo75nxlsdwxka3e7/New%20Science.mp4))
Contract (last page) – 1%
Fitness Test & Body Mass Index [done twice – 1% each time; (attached on pg. 6)] – 2%
Target Heart Zone Worksheet (pg. 7-8, possibly 9 depending on your print margins) – 3%
Weight Training Fitness Plan (Must be TYPED DOUBLE-SPACED; outline on pg. 9) – 4%
Workout Journal (handout) (2x/week, handed in at the end of the term) – 4%
Attendance / Lab Exercises – 65% (10 points will be given each day with a deduction of 1 point for each five-minutes that a student is late. Students must attend the entire class period and participate in the daily activities to receive full credit for the class. Assuming the total possible points available is 140, your lab exercise score will be the number of points you gained each day divided by 140 and then multiplied by 65%. If there are 13 class periods, then the total is 130 and the math is done the same.) If you attend, are on time, each day, and participate as scheduled, you’ll receive the full 10 points for that day. Unexcused absences, late arrivals, and lackadaisical performance could significantly affect the grade.

Practical Assessment on weight training techniques – 1%

ASSIGNMENTS – To receive credit MUST be handed in on the DUE DATE at the beginning of class unless otherwise directed. All other times will result in a “0.”

ABSENCE – if you’re absent, e-m or FAX (993-4425) the assignment PRIOR TO CLASS on the day it is do.

Grading Scale
A+ = 98 – 100  A - 94 – 97.9   A- = 90 – 93.9  B+ = 88 – 89.9
B = 84 – 87.9  B- = 80 – 83.9  C+ = 78 – 79.9  C- = 70 – 73.9
D = 60 – 69.9  F = 0 – 59.9
Dress Code / Lecture / Cell Phones
Participants must wear athletic shoes and non-restrictive clothing for all activity classes. Jeans or opened-toed shoes must not be worn on activity days. Unless otherwise indicated, participation will occur after the lectures 2-4.

Cell Phones – use during class may result in half day (5 out of 10 point) loss of participation points and could cause your grade to drop a letter grade.

Pre-Existing Conditions
Students with injuries or pre-existing conditions that may affect performance must inform the instructor.

TENTATIVE COURSE SCHEDULE

<table>
<thead>
<tr>
<th>DAY</th>
<th>TOPIC</th>
<th>READINGS / ASSIGNMENT DUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1st Mtg in RAC Cage Bleachers; Syllabus and Introduction to Class; Fitness Testing, Target Heart Zone, Workout Journal – May 18</td>
<td>1st Mtg in AFC Back half of Classroom 112; bring syllabus w/ you. Fitness Evaluation; Begin Workout Journal</td>
</tr>
<tr>
<td>2</td>
<td>Lecture 1: Weight Management, Nutrition, &amp; Environmental Effects on Disease and Aging – May 19</td>
<td>Meet at AFC Back half of Classroom 112 – at end of hall upstairs. Contract Due (1%) and Fitness Evaluation: Fitness Test, BMI Due (1%); Bring Lecture 1 with you.</td>
</tr>
<tr>
<td>3</td>
<td>RAC Cage Gym Bleachers: Lecture 2: Body Composition &amp; CV Dis; Workout – Stretch &amp; Aerobic Activity – May 20</td>
<td>AFC Back half of Classroom 112; Target Heart Zone (THZ) Worksheet Due (3%)</td>
</tr>
<tr>
<td>4</td>
<td>RAC Cage Gym Bleachers; Lecture 3: Cardiovascular Endurance; Stretch &amp; Aerobic Activity – May 21</td>
<td>AFC Back half of Classroom 112</td>
</tr>
<tr>
<td></td>
<td>MAY 25 – Memorial Day</td>
<td>“</td>
</tr>
<tr>
<td>5</td>
<td>Stretch &amp; Aerobic Activity – May 26</td>
<td>“</td>
</tr>
<tr>
<td>6</td>
<td>Stretch &amp; Aerobic Activity – May 27</td>
<td>“</td>
</tr>
<tr>
<td>7</td>
<td>Workout – Stretch &amp; Aerobic Activity – May 28</td>
<td>“</td>
</tr>
<tr>
<td>8</td>
<td>Stretch &amp; Aerobic Activity – June 1</td>
<td>“</td>
</tr>
<tr>
<td>9</td>
<td>Workout: Stretch &amp; Aerobic Activity – June 2</td>
<td>“</td>
</tr>
<tr>
<td>10</td>
<td>Workout: Stretch &amp; Aerobic Activity – June 3</td>
<td>Aerobic Fitness Plan Due (4%)</td>
</tr>
<tr>
<td>11</td>
<td>Workout: Stretch &amp; Aerobic Activity – June 4</td>
<td>Workout Journal (WJ) Due (4%)</td>
</tr>
<tr>
<td>12</td>
<td>RAC Soccer Field Bleachers</td>
<td>RAC Soccer Field Bleachers</td>
</tr>
<tr>
<td></td>
<td>FINAL WRITTEN EXAM &amp; FITNESS EVALUATION (Sit-&amp;-Reach, BMI &amp; 1.5 Mi Run) – June 8</td>
<td>Fitness Evaluation Due (1%)</td>
</tr>
</tbody>
</table>

ASSIGNMENTS
1. May 19 – Contract (1%) Fitness Evaluation (Sit-&-Reach and 1.5 mi run time) & Initial BMI Due (1%)
2. May 20 – Target Heart Zone (THZ) Worksheet Due (3%)
3. June 3 – Aerobic Fitness Plan Due (4%)
4. June 4 – Workout Journal Due (4%)
5. June 8 – Final Written & Fitness Evaluation Due (1%)
INITIAL FITNESS EVALUATION (1%)  
Body Mass Index, Sit-Ups, Sit-and-Reach, & 1.5 Mile Run  
DUE – May 19

Name: _________________________________
Weight: ______________
Height in inches: _______
BMI (Weight x 705  divided by height in inches squared) = __________

Chronic Disease Risk (see BELOW!!)
Example:  150 Man who is 5’7.5” (67.5”) Tall
150 x 705 = 105750 / 67.5^2 (4556.25) = 23.2

1.5 Mile Run _______
Sit-ups _______ (NOT TO BE DONE)
Sit-&-Reach _______

FINAL FITNESS EVALUATION (1%)  
Body Mass Index, Sit-Ups, Sit-and-Reach, & 1.5 Mile Run  
DUE – June 8

Name: _________________________________
Weight: ______________
Height in inches: _______
BMI (Weight x 705  divided by height in inches squared) = __________

Chronic Disease Risk: __________________ (see BELOW!!)

1.5 Mile Run _______
Sit-ups _______ (NOT TO BE DONE)
Sit-&-Reach _______

BMI CLASSIFICATIONS

<table>
<thead>
<tr>
<th>BMI</th>
<th>Chronic Disease Risk</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20.00</td>
<td>Moderate to Very High</td>
<td>Underweight</td>
</tr>
<tr>
<td>20-21.99</td>
<td>Low</td>
<td>Acceptable</td>
</tr>
<tr>
<td>22.00-24.99</td>
<td>Very Low</td>
<td>Acceptable</td>
</tr>
<tr>
<td>25.00-26.99</td>
<td>Low</td>
<td>Overweight</td>
</tr>
<tr>
<td>27.00-29.99</td>
<td>Moderate</td>
<td>Overweight</td>
</tr>
<tr>
<td>30.00-39.99</td>
<td>High</td>
<td>Obese</td>
</tr>
</tbody>
</table>
I. INTENSITY OF EXERCISE
1. Estimate your own maximal heart rate (MHR)

\[ \text{MHR} = 208 - (0.7 \times \text{age}) \]

\[ \text{MHR} = 208 - \underline{\text{__________}} (0.7 \times \text{age}) = \underline{\text{__________}} \text{ BPM} \]

2. Resting Heart Rate (RHR) = \underline{\text{____________}} BPM

3. Heart Rate Reserve (HRR) = \text{MHR} - \text{RHR}

\[ \text{HRR} = \underline{\text{__________}} - \underline{\text{__________}} = \underline{\text{__________}} \text{ BPM} \]

\[ \text{MHR} \quad \text{RHR} \]

4. Training Intensities (TI) = HRR x TI + RHR

\[ 40\% \text{ TI} = \underline{\text{_______}} (\text{HRR}) \times 0.40 = \underline{_______} + \underline{_______} = \underline{_______} \text{ BPM} \]

\[ 50\% \text{ TI} = \underline{\text{_______}} (\text{HRR}) \times 0.50 = \underline{_______} + \underline{_______} = \underline{_______} \text{ BPM} \]

\[ 60\% \text{ TI} = \underline{\text{_______}} (\text{HRR}) \times 0.60 = \underline{_______} + \underline{_______} = \underline{_______} \text{ BPM} \]

\[ 85\% \text{ TI} = \underline{\text{_______}} (\text{HRR}) \times 0.85 = \underline{_______} + \underline{_______} = \underline{_______} \text{ BPM} \]

5. Cardiorespiratory Training Zone (CTZ). The optimum CTZ is found between 60% and 85% training intensities. Those individuals who have been physically inactive or are in poor or fair cardiorespiratory fitness should work between 40% and 50% TI during the first few weeks of an exercise program.

\[ \text{CTZ: } \underline{\text{______________}} (60\% \text{ TI}) \text{ to } \underline{\text{______________}} (85\% \text{ TI}) \]

II. MODE OF EXERCISE
Select those activities or combination of \textit{aerobic} activities that you have enjoyed. These are activities that are \textit{continuous, rhythmical, and with a sustained} a heart rate in a CTZ for at least 20 minutes. These would NOT include soccer, weight lifting, or any other “short burst” activity.

1. \underline{__________________________} 2. \underline{__________________________} 3. \underline{__________________________}

4. \underline{__________________________} 5. \underline{__________________________} 6. \underline{__________________________}
### III. CARDIORESPIRATORY EXERCISE PROGRAM (CEP)

When participating in a CEP for 8-12 weeks you may well experience a significant reduction in your resting heart rate between 10-20 BPM. In order to determine your heart rate you will need to know what your pulse count is for 6 seconds; however, until you can feel your pulse and count it without missing beats, you should begin by counting your pulse for 15 seconds (and multiplying by 4 = BPM), then 10 seconds (and multiplying by 6 = BPM), and finally for 6 (and multiplying by 10 = BPM). You need to determine what the 6-sec pulse count is that will give you the Training Intensity (TI) for each of the Training Intensities (TI’s) below, so you’ll know where you are in terms of TI at anytime you check your pulse. If you’re not sure how to do this, let me know **BEFORE** the assignment is due.

<table>
<thead>
<tr>
<th>Training Intensity</th>
<th>Heart Rate (BPM)</th>
<th>Determine 6-Second Pulse Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between 40% and 50%</td>
<td>_____ to _____</td>
<td>_____ to _____</td>
</tr>
<tr>
<td></td>
<td>(Found on previous page)</td>
<td></td>
</tr>
<tr>
<td>Between 50% and 60%</td>
<td>_____ to _____</td>
<td>_____ to _____</td>
</tr>
<tr>
<td></td>
<td>(Found on previous page)</td>
<td></td>
</tr>
<tr>
<td>Between 60% and 85%</td>
<td>_____ to _____</td>
<td>_____ to _____</td>
</tr>
<tr>
<td></td>
<td>(Found on previous page)</td>
<td></td>
</tr>
</tbody>
</table>

### IV. BRIEFLY STATE YOUR EXPERIENCES AND FEELINGS REGARDING AEROBIC EXERCISE (MUST TYPE below.)
CARDIOVASCULAR TRAINING & EXERTION

The two graphs below show where you need to be to experience various training “zones” (for a 20 year-old individual) and how hard you perception is of the training you do.

**Development of Aerobic Fitness**
There is a *warm-up* phase in which the heart rate (HR) gradually moves into the Training Zone (TZ) for a period of 20-30 minutes. Following training, there is a *cool down* period to bring the HR back to normal.

Once you begin to work in the TZ at the moderate-to-high intensity for a period of 8-12 weeks, you should experience a reduction in your *resting HR* of 10-20 beats per minute.

**Rate of Perceived Exertion (PE)**
This is how you *feel* about your activity at the time you finish. There is no right or wrong, it’s basically your inner perception of the zone/task you are in with the phrases given on the scale. You then may exercise at that rate of perceived exertion.

Make sure to cross-check your actual TZ with your PE during the first weeks of your exercise program. After several weeks of this, you should be able to predict your exercise HR by your PE of exercise intensity.
GENERAL. Please note that this is a P-L-A-N for future use, not what will occur by the end of this class, but what you would do to continue your fitness activity that you could use and/or share with friends and family should they want to improve their health and fitness.

This plan should be one that you develop using information gathered in this class as well as any other outside sources (health related information) that would help you stay fit for the rest of your life. It should consider your particular choice of aerobic training exercise.

You may choose any form of aerobic training, but remember it should be continuous, rhythmical, and last at least 20 minutes or more. The heart rate should get up to at least 40% TI and allow you to progress to 60-85% by the end of your chosen time block.

There will be other components to assist this plan that are not necessarily fitness oriented, but health related, that will improve your body’s health and that can have a significant effect on your fitness. Some of those are indicated below.

The plan MUST be TYPED (handwritten assignment will receive a “0”), contain the following listed below, but may contain more information and be DOUBLE SPACED (if not double-spaced you can only receive 2.5 points).

(1Pt.) CURRENT STATE OF FITNESS? (Explain where you are and how long you have been there. Also include the fitness measurements and BMI you received the first week of class.)

(1Pts.) GOAL(S)? What goal or goals do you have that you would like to see met by the end of a particular block of time (your choice)? These may include, but not be limited to, weight loss, ability to lift more weight and/or more repetitions at lower weights, to last longer on walks, runs, and hikes; fat loss (which may occur without weight loss), stress reducing activities, etc.

(.5Pt.) LIST OF ACTIVITIES AND HOW YOU WOULD MONITOR THEM. State the kinds of aerobic training activities that are reasonable for you to do. You may also choose to do weight training as well (free weights, stationary weights, your own body as resistance, etc.). State how you would monitor these aerobic and weight training activities if you needed to do so for medical reasons, i.e. your physician wants to know about your physical activity program.

(.5Pt.) RECORD YOUR TRAINING INTENSITY (TI) AND HR. State your TI and what your most recent HR had been before, immediately after and 30 minutes after your exercise bout.

(.1Pt.) OTHER? Besides aerobic training activity, you should consider other lifestyle choices that can affect your fitness level, such as diet, rest, and stress management. Please be aware that when you consider diet, this doesn’t necessarily mean calorie restriction, but maybe making better choices in the food that you eat. In some cases you may eat more and lose more, especially if you choose higher fiber foods and eliminate some of the simple sugar choices such as sodas and fruit juices.

This section could include anything else that will help with your overall health, i.e. relationships with friends tend to decrease your resistance because you’re staying up late and you do not “feel” like exercising.
**AEROBIC ACTIVITY SEQUENCING OF INTENSITY**

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DAY</th>
<th>LVL OF INTNSY</th>
<th>BIKE</th>
<th>ELPTCL</th>
<th>TREADMILL</th>
<th>TIME</th>
<th>JOG</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>Lecture 1</td>
<td>1.5 mile walk/jog</td>
<td>NA</td>
<td>75 SPM 1.5&quot; 95 SPM –30' for first 20&quot;</td>
<td>3.0 MPH 1.5&quot; 5.0 MPH –30' for first 20&quot;</td>
<td>Up to 30&quot;</td>
<td>Walk briskly 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>Lecture 2</td>
<td>1.5 mile run/walk</td>
<td>80 SPM 1.5&quot; 100 SPM – 30' for first 20&quot;</td>
<td>3.5 MPH 1.5&quot; 5.5 MPH –30' for first 20&quot;</td>
<td>30&quot;</td>
<td>Walk briskly 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>Total – 30&quot; + Cool Down</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>Lecture 3</td>
<td>1.5 mile walk/jog</td>
<td>85 SPM 1.5&quot; 105 SPM – 30' for first 20&quot;</td>
<td>4 MPH 1.5&quot; 6MPH –30' for first 20&quot;</td>
<td>32&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>31.5&quot; + Cool Down</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>90 SPM 1.5&quot; 115 SPM – 30' for first 20&quot;</td>
<td>4.1 MPH 1.5&quot; 7.1MPH –30' for first 20&quot;</td>
<td>34&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>34&quot; + Cool Down</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>90 SPM 1.5&quot; 115 SPM – 30' for first 20&quot;</td>
<td>4.3 MPH 1.5&quot; 7.3MPH –30' for first 20&quot;</td>
<td>36&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>36&quot; + Cool Down</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>95 SPM 1.5&quot; 120 SPM – 30' for first 20&quot;</td>
<td>4.5 MPH 1.5&quot; 7.5MPH –30' for first 20&quot;</td>
<td>38&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>38&quot; + Cool Down</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>95 SPM 1.5&quot; 120 SPM – 30' for first 20&quot;</td>
<td>4.5 MPH 1.5&quot; 7.5MPH –30' for first 20&quot;</td>
<td>40&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>40&quot; + Cool Down</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>95 SPM 1.5&quot; 125 SPM – 30' for first 20&quot;</td>
<td>4.7 MPH 1.5&quot; 7.7MPH –30' for first 20&quot;</td>
<td>42&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>41.5&quot; + Cool Down</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>100 SPM 1.5&quot; 130 SPM – 30' for first 20&quot;</td>
<td>5 MPH 1.5&quot; 8 MPH –30' for first 20&quot;</td>
<td>44&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>44&quot; + Cool Down</td>
</tr>
<tr>
<td>6</td>
<td>11</td>
<td></td>
<td>1.5 mile walk/jog</td>
<td>105 SPM 1.5&quot; 135 SPM – 30' for first 20&quot;</td>
<td>5.2 MPH 1.5&quot; 8.2 MPH –30' for first 20&quot;</td>
<td>45&quot;</td>
<td>Jog easy 1.5&quot;, jog briskly 30'; repeat for first 20&quot;</td>
<td>45&quot; + Cool Down</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Fitness Test</td>
<td>Final Written, Sit-&amp;-Reach &amp; 1.5 mi run/walk</td>
<td>NA</td>
<td>NA</td>
<td>Whatever it takes</td>
<td>1.5 mile walk/jog</td>
<td>Whatever it takes</td>
</tr>
</tbody>
</table>

*This is a general pattern and may be altered depending on your level of fitness. Some of you may be able to reduce the “down” time and increase the fitness intensity and time; however, make sure to always “cool down” w/ a walk and stretch when you are done.*
AEROBIC EXERCISE: We won’t quit straight aerobics, (even though it appears as though I am saying this, and you’re reaping greater results than before). We will finish each “Peak Burst” which will be done at the beginning of the class for 20” with straight aerobic exercise to complete the total minutes each day. Jogging, using elliptical machines, stationary or recumbent bikes, treadmills, walking fast and so-forth are all examples of aerobic exercise, which will

1 - increase the amount of oxygen in your blood and increase endorphins, which act as natural painkillers.
2 - activate your immune system
3 - help your heart pump blood more efficiently
4 - increases your stamina over time.

USE OF BIKES / ELLIPTICAL / TREADMILL – On the bikes set the Level to 1, complete the first RPM listed for 1.5” followed by the second RPM for 30’ at a brisk pace so that breathing is hard. This will be done for the first 20”; complete the rest of the time with aerobic workout somewhere b/t low & high TI’s. On the elliptical, SPM stands for Strides Per Minute. If any of these rates are too hard, make sure to SEE ME ASAP.

WALK / JOG – Walk the distance listed inside or outside followed with a jog for the time listed. You can also use the amount as time rather than distance. Walk more or less depending on your level of fitness. For the first 20” use the 1.5” / 30’ time blocks – walk for 1.5”, jog briskly for 20-30’ so that breathing is hard, then complete the remaining time aerobically until the total time is done or use the “Jog Column” as seen above.

COOL DOWN – walk for 3” followed by a stretch of the quadriceps, hamstrings, and calf muscles as demonstrated in class.

PEAK FITNESS TRAINING

Peak Fitness Training occurs when you raise your heart rate up to your anaerobic threshold training zone for 20 to 30 seconds, and then you recover slowly for 90 seconds. The intensity is absolutely individual. For some it may be as simple as fast walking alternating with slow walking. For those in excellent condition you would run relatively fast for 30’ followed by an easy jog for 1.5 minutes or if on a stationary/recumbent bike, high RPM 30’ followed by moderate RPM 1.5. This is done for the first 20 minutes of an exercise bout.

Peak fitness can actually cause your growth hormone to increase naturally, without any of the expense or side effects.

How Does It Work and What is Required?

You have three different types of muscle fibers: slow, fast, and super-fast. And only ONE of these muscles will impact your production of a vital hormone called HGH, or human growth hormone, which is KEY for strength, health and longevity. High intensity burst cardio is the form of exercise that will engage these super fast fibers. They're ten times faster than slow fibers, and this is the key to producing growth hormone!

Are You in Somatopause (Age Related Growth Hormone Deficiency?)

As you reach your 30’s and beyond, you enter what's called "somatopause," when your levels of HGH begin to drop off quite dramatically. This is part of what drives your aging process. Often nearly everyone over 30 has dramatically abnormal levels of this important hormone because they begin leading increasingly more sedentary life styles.

Children and most animals in the wild do not run marathons or lift weights, they move at high speeds for very short periods of time and then rest. This is natural and what optimizes the production of growth hormone.
The higher your levels of growth hormone, the healthier and stronger you're going to be. And the longer you can keep your body producing higher levels of HGH, the longer you will experience robust health and strength.

Dr. Harvey Cushing discovered HGH in the form of somatotropin almost a hundred years ago. Many individuals choose to inject it, though it is a banned substance in many professional sports.

As pointed out earlier, it is not recommend doing this as the health risks and cost are in no way justifiable. Ideally, you really want your body to produce it naturally, as injecting HGH does have side effects. And the way you produce it is by exercising your super-fast muscle fibers.

Benefits of Peak Fitness Exercises

Once you regularly participate in these 20 minute exercises about twice a week, most people notice the following benefits:

- Lowers your body fat
- Dramatically improves muscle tone
- Firms your skin and reduces wrinkles
- Boosts your energy and sexual desire
- Improves athletic speed and performance
- Allows you to achieve your fitness goals much faster

How to Properly Perform Peak Fitness Exercises to Increase Your Growth Hormone Levels

First of all, please remember that you can perform this with any type of exercise. While having access to a gym or exercise equipment will provide you with a larger variety of options, you don't require either. You can easily perform this by walking or running on flat ground.

You will certainly want to work your way up to this point, but ultimately you want to exercise vigorously enough so you reach your anaerobic threshold as this is where the "magic" happens that will trigger your growth hormone release.

Whatever activity you choose, by the end of your 30 second period you will NEED to reach these markers:

- It will be relatively hard to breathe and talk because you are in oxygen debt
- You will start to sweat profusely. Typically this occurs in the second or third repetition unless you have a thyroid issue and don't sweat much normally.
- Your body temperature will rise
- Lactic acid increases and you will feel a muscle "burn"

If you are using cardio equipment like an elliptical or bike, you don't need to reach any "magical" speed. It's highly individual, based on your current level of fitness; however, you know you're doing it right when you're exerting yourself to the point of typically gasping for breath after a short burst of activity.

An added boon is that you'll save a tremendous amount of time because peak fitness will cut your hour-long cardio workout down to a total of 20 minutes or so, including your recovery time, warm-up and cool down.

The actual sprinting totals only 4 minutes!
Here's what a typical peak fitness routine might look like using a recumbent bike:

1. Warm up for three minutes
2. Exercise as hard and fast as you can for 30 seconds. You should feel like you couldn't possibly go on another few seconds
3. Recover for 90 seconds
4. Repeat the high intensity exercise and recovery 7 more times

Be mindful of your current fitness level and don't overdo it when you first start out.

If you are not in great shape and just starting this you may want to start with just two or three repetitions, and work your way up to eight, which is where the magic really starts to happen. You may need to start with just walking and when you do your 30 second bursts your legs would be moving as fast as possible without running - and your arms would be pumping hard and fast.

If you can do a peak fitness workout twice a week, and follow the dietary recommendations below, you will increase your production of growth hormone.

**Dietary Recommendations to Maximize Growth Hormone Release**

To maximize your growth hormone release you need to:

- Get a good night's sleep
- Avoid a high fat meal prior to exercising
- Drink plenty of water
- Eat healthy carbs (think vegetables) and high quality protein
- Optimize your vitamin D levels
- **AVOID SUGAR**, especially fructose – this is ABSOLUTELY crucial.

**SUGAR** - If you consume sugar or fructose, especially within two hours post-exercise, you will increase somatostatin which will in turn **obliterate the production of growth hormone!**

This is yet another example of why gulping down sports drinks that are chockfull of high fructose corn syrup can do your body more harm than good, and will just shut down your body's production of HGH and negate many of the benefits from your exercise.
Student Expectations

- Students must adhere to the guidelines of the George Mason University Honor Code [See http://academicintegrity.gmu.edu/honorcode/].

- Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See http://ods.gmu.edu/].

- Students must follow the university policy for Responsible Use of Computing [See http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/].

- Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.

- Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

Campus Resources

- The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students’ personal experience and academic performance [See http://caps.gmu.edu/].

- The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See http://writingcenter.gmu.edu/].

- For additional information on the College of Education and Human Development, School of Recreation, Health, and Tourism, please visit our website [See http://rht.gmu.edu].

PROFESSIONAL BEHAVIOR: Students are expected to exhibit professional behaviors and dispositions at all times.

CORE VALUES COMMITMENT: The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles.
CONTRACT (1%)  
DUE – May 19

I HAVE READ AND UNDERSTAND THE ASSIGNMENTS, DUE DATES, AND GRADING

___________________  
Print Name

___________________  
Signature

___________________  
Date