PHED 105—Aerobics and Basic Conditioning (1)
Fall 2010

DAY/TIME: MW 10:30-11:35 a.m., 8/30-10/13
LOCATION: FH Bleachers – 1st class mtg / RAC Aerobic Area thereafter
PROFESSOR: Dr. Fred Schack
EMAIL ADDRESS: fschack@gmu.edu
OFFICE LOCATION: RAC 2108
PHONE NUMBER: 703-993-8522
OFFICE HOURS: 11:30-1:30 TR
FAX NUMBER: None

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. Design an aerobic fitness plan that meets your current level of aerobic fitness.
3. Define and calculate target heart rate and determine personal ranges.
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
http://www.youtube.com/watch?v=vvA4bPUoN3A&feature=PlayList&p=C3A968AAC4E3B626&playnext=1&playnext_from=PL&index=2 (Put cursor over this link and follow the command.) (May not be available.)

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

Obesity and Its Health Effects – http://www.youtube.com/watch?v=7e1otiD2xL8

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


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

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
Requirements

1 Written Exam – 20%
Contract – 1%
1 Practical Assessment on aerobic training techniques – 1%
Workout Journal (4x’s/week, handed in at the end of the term) – 4%
Target Heart Zone Worksheet – 3%
Fitness Test & Body Mass Index [done twice – 1 % each time; (attached on pg. 3)] – 2%
Weight Training Fitness Plan (Must be TYPED DOUBLE-SPACED; outline at end of syllabus) – 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.

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

Absence – if you’re absent, e-m or FAX (993-2722) the assignment PRIOR TO CLASS on the day it is do.

Instructor Error - +2% (This is an extra point due to any error the instructor might make in grading.).

Grading Scale
100-90=A, 89-80=B, 79-70=C, 69-60=D, 60-0=F

Dress Code / Lecture
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.

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 FIELD HOUSE; Syllabus and Introduction to Class; Fitness Testing, Target Heart Zone, Workout Journal – Aug 30</td>
<td>1st Mtg in FIELD HOUSE; bring syllabus w/ you. Fitness Test; Begin Workout Journal</td>
</tr>
<tr>
<td>2</td>
<td>Weight Training Stations; Workout – Stretch &amp; Aerobic Activity – Sept 1</td>
<td>Contract Due (1%) and Fitness Evaluation: Fitness Test, BMI Due (1%)</td>
</tr>
<tr>
<td>3</td>
<td>Stretch &amp; Aerobic Activity – Sept 8</td>
<td>Target Heart Zone (THZ) Worksheet Due (3%)</td>
</tr>
<tr>
<td>4</td>
<td>Stretch &amp; Aerobic Activity – Sept 13</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lecture 1: Weight Management &amp; Nutrition, &amp; Environmental Effects – Sept 15</td>
<td>Trailer next to FH b/t FH &amp; Soccer Stadium</td>
</tr>
<tr>
<td>6</td>
<td>Stretch &amp; Aerobic Activity – Sept 20</td>
<td></td>
</tr>
<tr>
<td>DAY</td>
<td>TOPIC</td>
<td>READINGS / ASSIGNMENT DUE</td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>7</td>
<td>Workout – Stretch &amp; Aerobic Activity – Sept 22</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td><strong>Lecture 2: Body Composition &amp; CV Dis;</strong> Stretch &amp; Aerobic Activity – Sept 27</td>
<td>CAGE GYM – RAC 2227</td>
</tr>
<tr>
<td>9</td>
<td>Stretch &amp; Aerobic Activity – Sept 29</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Stretch &amp; Aerobic Activity – Oct 4</td>
<td><strong>Aerobic Training Fitness Plan Due (4%)</strong></td>
</tr>
<tr>
<td>11</td>
<td><strong>Lecture 3: Cardiovascular Endurance;</strong> Workout: Stretch &amp; Aerobic Activity – Oct 6</td>
<td><strong>Workout Journal Due (4%)</strong> CAGE GYM - 2227</td>
</tr>
<tr>
<td>12</td>
<td>Stretch &amp; Aerobic Activity – Oct 12 (TUESDAY)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td><strong>FINAL Written and Fitness Evaluation (Sit-&amp;-Reach, BMI &amp; 1.5 Mi Run) – Oct 13</strong></td>
<td><strong>FIELD HOUSE; Fitness Evaluation Due (1%)</strong></td>
</tr>
</tbody>
</table>

**ASSIGNMENTS**

1. **Sept 1** – Contract (1%) Fitness Test (Sit-&-Reach and 1.5 mi run time) & Initial BMI Due (1%)
2. **Sept 8** – Target Heart Zone (THZ) Worksheet Due (3%)
3. **Oct 4** – Aerobic Training Fitness Plan Due (4%)
4. **Oct 6** – Workout Journal Due (4%)
5. **Oct 13** – Fitness Evaluation Due (1%)
INITIAL FITNESS EVALUATION (1%)
Body Mass Index, Sit-Ups, Sit-and-Reach, & 1.5 Mile Run
DUE – Sept 1

Name: ______________________________
Weight: ______________
Height in inches: ________
BMI (Weight x 705 divided by height in inches squared) = ________
Classification __________________ (see BELOW!!)
Example: 150 Man who is 5’7.5” (67.5”) Tall
150 x 705 = 105750 / 67.5² (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 – Oct 13

Name: ______________________________
Weight: ______________
Height in inches: ________
BMI (Weight x 705 divided by height in inches squared) = ________
Classification __________________ (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>
TARGET HEART ZONE (Training Intensity) WORKSHEET (3%)
DUE – Sept 8

NAME_______________________ DATE_____________ COURSE_____________

I. INTENSITY OF EXERCISE
1. Estimate your own maximal heart rate (MHR)

   MHR = 208 minus .7 (age) [ex: 208 - .7 x 20 ( = 14)] = 194

   MHR = 208 – _________ (.7 x age) = _________ BPM

2. Resting Heart Rate (RHR) = _________ BPM

3. Heart Rate Reserve (HRR) = MHR – RHR

   HRR = _________ – _________ = _________ BPM

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

   40% TI = _________ (HRR) x .40 = _____ + _____ = _______ BPM

   50% TI = _________ (HRR) x .50 = _____ + _____ = _______ BPM

   60% TI = _________ (HRR) x .60 = _____ + _____ = _______ BPM

   85% TI = _________ (HRR) x .85 = _____ + _____ = _______ BPM

5. Cardiosrespiratory 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.

   CTZ: _____________ (60% TI) to _____________ (85% TI)

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

1. ______________________ 2. ______________________ 3. ______________________
4. ______________________ 5. ______________________ 6. ______________________
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.

<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 _____ (Found on previous page)</td>
</tr>
<tr>
<td>Between 50% and 60%</td>
<td>_____ to _____</td>
<td>_____ to _____ (Found on previous page)</td>
</tr>
<tr>
<td>Between 60% and 85%</td>
<td>_____ to _____</td>
<td>_____ to _____ (Found on previous page)</td>
</tr>
</tbody>
</table>

IV. BRIEFLY STATE YOUR EXPERIENCES AND FEELINGS REGARDING AEROBIC EXERCISE (Please type below.)
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.
AEROBIC / (HEALTH) FITNESS PLAN (4 %)
DUE - Oct 4

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, rhythmic, 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 contain the following and be DOUBLE SPACED (if not double-spaced you can only receive 2.5 points), but may contain more:

(1Pt.) CURRENT STATE OF FITNESS? (Explain where you are and how long you have been there. Also include the fitness measurements 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 weight 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>LEVEL OF BIKE / STEPPER / ELLIPTICAL</th>
<th>TIME</th>
<th>JOG</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1.5 mile walk/jog</td>
<td>Whatever it takes</td>
<td>1.5 mile walk/jog</td>
<td>Whatever it takes</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>55 RPM – 2” 65 RPM – 1”</td>
<td>30”</td>
<td>Walk 100m, jog 100m</td>
<td>Total – 30” + Cool Down</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>75 – 2” 85 – 1”</td>
<td>40”</td>
<td>Walk 60m &amp; jog 140m both w/ increased pace</td>
<td>40 + Cool Down</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>85 – 2” 95 – 1”</td>
<td>45”</td>
<td>Walk 20m&amp; jog 180m both w/ increased pace</td>
<td>45 + Cool Down</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>105 – 2” 115 – 1”</td>
<td>45”</td>
<td>Walk 20m&amp; jog 180m both w/ increased pace</td>
<td>45 + Cool Down</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>Final Written; Sit-&amp;-Reach &amp; 1.5 mi run/walk</td>
<td>Whatever it takes</td>
<td>1.5 mi run/walk</td>
<td>45” + Cool Down</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.*

**USE OF BIKES / ELLIPTICAL / STEPPER** – set the Level to 1, complete the first RPM listed for 2” followed by the second RPM for 1”. Alternate until the total time is done. You may complete all of the time at one time for each RPM.

**WALK / JOG** – Walk the amount of distance listed followed by a jog for the time listed. You may walk more or less depending on your level of fitness. You may also choose to do this outside on Patriot Circle, the soccer / football field, the track by the FH or on the path alongside the road by the soccer stadium. If you do this outside use, the 2”/1” time blocks – walk for 2”, jog for 1” until the total time is done.

**COOL DOWN** – walk for half the time left followed by a stretch of the quadriceps, hamstrings, and calf muscles as demonstrated in class for the last half of the time.

- All students are held to the standards of the George Mason University Honor Code [See http://www.gmu.edu/catalog/apolicies/#Anchor12]
- University policy states that all sound emitting devices shall be turned off during class unless otherwise authorized by the professor
- Students with disabilities who seek accommodations in a course must be registered with the Office of Disability Services (ODS) and inform the instructor, in writing, at the beginning of the semester [See www.gmu.edu/student/drc]
- For additional School of Recreation, Health, and Tourism information, please visit the website at http://rht.gmu.edu
CONTRACT (1%)  

DUE – Sept 1

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

___________________  
Print Name

___________________  
Signature

___________________  
Date