

GEORGE MASON UNIVERSITY
School of Recreation, Health, and Tourism

RECR 118 – 002
Aerobics and Basic Conditioning (1)

Spring 2018
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GEORGE MASON UNIVERSITY
College of Education and Human Development
Physical Activity for Lifetime Wellness

RECR 118 (002) — Aerobics and Basic Conditioning (1)
1 Credit, Spring 2018
TR 10:30-11:45 , 3/20 -5/3, Fairfax/Linn Gym, 1200B

Faculty

Professor: **Fred Schack, Ph.D.**

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Phone: **703.993.8522**

Office Hours: **1:30-2:30 & by appointment**

Office Location: **RAC 2108**

Prerequisites: *None*

University Course Catalog Description:

Introduces students to fitness and healthy lifestyles. Provides students with an overview of the various types of weight training with an emphasis on circuit weight training.

Course Overview – Not Applicable

Learner Outcomes of Objectives

This course is designed to enable students to do the following

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.

Professional Standards – Not Applicable

Required Text – None, but will include handouts and the following readings and video reviews

Handouts

ToxicBrew (~ 17") (Copy and paste link into your browser – <https://www.youtube.com/watch?v=a6m1dvJFzig>)

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)

1. <http://articles.mercola.com/sites/articles/archive/2008/11/18/do-flu-shots-work-ask-a-vaccine-manufacturer.aspx>
2. <http://www.drdauidwilliams.com/why-you-should-not-get-the-flu-shot/>
3. <http://articles.mercola.com/sites/articles/archive/2012/11/06/flu-vaccine-efficacy.aspx>

HPV Vaccine: <http://articles.mercola.com/sites/articles/archive/2008/10/25/prominent-scientist-warns-of-hpv-vaccine-dangers.aspx>

Homeopathic Medicines:

Do homeopathic medicines really work? Yes, they do, but be careful where/how they're purchased. Dr. Whitaker explains

what they are, how they compare with prescription meds as well as sources.
<http://www.drwhitaker.com/homeopathic-remedies-do-they-work/>

Statin Drug Issues:

The Dangers of Statin Drugs: <http://statins.mercola.com/>

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>)

S. Sultan and N. Hynes, "The Ugly Side of Statins. Systemic Appraisal of the Contemporary Un-Known Unknowns," *Open Journal of Endocrine and Metabolic Diseases*, Vol. 3 No. 3, 2013, pp. 179-185. doi:
<http://www.scirp.org/journal/PaperInformation.aspx?PaperID=34065#.VbFWEvIVhBc>

900 Studies Show Statin Drugs are Dangerous: (<http://articles.mercola.com/sites/articles/archive/2009/02/21/900-studies-show-statin-drugs-are-dangerous.aspx>)

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>. If you watch this one there are several more linked on
youTube you might want to put in your catalogue that might help other friends of yours who are down or
have a disability.

Chemicals in Baby Products - <http://www.treehugger.com/health/7-chemicals-and-toxins-avoid-when-buying-baby-products.html>

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

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

Assignment and Examinations

1. Assignments – To receive credit they **MUST** be handed in on the **DUE DATE** at the **beginning of class** unless otherwise directed. All **other times** will result in a **“0.”**
2. **Absence** – if you’re absent, e-m or FAX (993-4425) the assignment **PRIOR TO CLASS** on the day it is due.
 - **Written – 20%** (**20-Question Multiple Choice Exam from Lectures 1-3, highlighted addendum on sugar, & video** (click on this link ----><file:///OTS-5QQ7NS1/Users/fschack/Downloads/New%20Science.VOB>)
 - **Contract (last page) – 1%**
 - **Fitness Test & Body Mass Index** [done twice – 1 % each time; (attached on **pg. 7**)] – **2%**
 - **Target Heart Zone Worksheet (pg.8 -9, possibly 10 depending on your print margins) – 3%**
 - **Aerobic Training Fitness Plan** (No more than **TWO PAGES**, **TYPED DOUBLE-SPACED**; see **pg. 10**) – **4%**
 - **Workout Journal (handout)** (2x/week, handed in at the end of the term) – **4%**
 - **Practical Assessment** on weight training techniques – **1%**

Other Requirements

1. **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** which result in daily point reductions could significantly affect the grade.

2. **Pre-Existing Conditions** – *Students with injuries / pre-existing conditions that may affect performance must inform the instructor.*

Course Information

1. Students with injuries or pre-existing conditions that may

Grading Scale

A = 90 – 100	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

Professional Dispositions

See <https://cehd.gmu.edu/students/polices-procedures/> .

Class Schedule

DAY	TOPIC	READINGS / ASSIGNMENT DUE
1	1st Mtg in RAC LINN GYM Bleachers Downstairs ; Syllabus and Introduction to Class; Target Heart Zone, Workout Journal – 3/20	Bring Syllabus ; Fitness Test; Begin Workout Journal
2	RAC Linn Gym Bleachers Downstairs Lecture 1: Wt Mgt, Nutrition, & Environmental Effects on Disease and Aging ; Aerobic Activity – 3/22	Bring Lecture 1 ; Contract Due (1%) Initial Fitness Eval: Due (1%)
3	RAC Linn Gym Bleachers Downstairs Lecture 2: Body Composition & CV Disease ; Stretch, Aerobic Activity – 3/27	Bring Lecture 2 ; Target Heart Zone (THZ) Worksheet Due (3%)
4	RAC Linn Gym Bleachers Downstairs Lecture 3: Cardiovascular Endurance ; Stretch, Aerobic Activity – 3/29	Bring Lecture 3
5	Stretch & Aerobic Activity – 4/3	
6	Stretch & Aerobic Activity – 4/5	
7	Stretch & Aerobic Activity – 4/10	
8	Stretch & Aerobic Activity – 4/12	
9	Stretch & Aerobic Activity – 4/17	
10	Stretch & Aerobic Activity – 4/19	
11	Stretch & Aerobic Activity – 4/24	
12	Stretch & Aerobic Activity – 4/26	Aerobic Training Fitness Plan Due (4%)
13	Stretch & Aerobic Activity – 5/1	Workout Journal Due (4%)
14	RAC Linn Gymnasium Downstairs Bleachers FINAL WRITTEN EXAM & FINAL Fitness Evaluation – Sit-&-Reach, Sit-Ups, BMI & 1.5 Mi Run – 5/3	Final Fitness Evaluation Due (1%)

ASSIGNMENTS

1. **Mar 22** – Contract **(1%)** Fitness Evaluation (Sit-&-Reach and 1.5 mi run time) & Initial BMI **Due (1%)**
2. **Mar 27** – Target Heart Zone (THZ) Worksheet **Due (3%)**
3. **Apr 26** – Aerobic Training Fitness Plan **Due (4%)**
4. **May 1** – Workout Journal Due **Due (4%)**
5. **May 3** – Final Fitness Evaluation **Due (1%)**

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: <http://cehd.gmu.edu/values/>.

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/>)
- 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 Mason 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 with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <http://ods.gmu.edu/>).
- Students must follow the university policy stating that all sound emitting devices shall be silenced during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .

INITIAL FITNESS EVALUATION & GOAL (1%)
Body Mass Index, Sit-Ups, Sit-and-Reach, & 1.5 Mile Run
DUE – Mar 22

Name: _____

Weight: _____

Height in inches: _____

BMI (Weight x 705 divided by height in inches squared) = _____

Chronic Disease Risk _____ (see CLASSIFICATIONS BELOW!!)

Example: 150 Man who is 5'7.5" (67.5") Tall

$$150 \times 705 = 105750 / 67.5^2 (4556.25) = 23.2$$

1.5 Mile Run _____

Sit-ups _____ (NOT TO BE DONE)

Sit-&-Reach _____

YOUR ONE MAJOR GOAL FOR THIS CLASS:

FINAL FITNESS EVALUATION & GOAL (1%)
Body Mass Index, Sit-Ups, Sit-and-Reach, & 1.5 Mile Run
DUE – May 3

Name: _____

Weight: _____

Height in inches: _____

BMI (Weight x 705 divided by height in inches squared) = _____

Chronic Disease Risk: _____ (see CLASSIFICATIONS BELOW!!)

1.5 Mile Run _____

Sit-ups _____ (NOT TO BE DONE)

Sit-&-Reach _____

WAS YOUR MAJOR GOAL ACCOMPLISHED?:

BMI CLASSIFICATIONS

BMI	Chronic Disease Risk	Classification
<20.00	Moderate to Very High	Underweight
20-21.99	Low	Acceptable
22.00-24.99	Very Low	Acceptable
25.00-26.99	Low	Overweight
27.00-29.99	Moderate	Overweight
30.00-39.99	High	Obese

(THREE-PART, ROM NUM'S I-III) TARGET HEART ZONE (Training Intensity)
WORKSHEET (3%)
DUE – Mar 27

NAME _____ DATE _____ COURSE _____

I. INTENSITY OF EXERCISE

1. Estimate your own maximal heart rate (MHR)

$$\text{MHR} = 208 \text{ minus } .7 (\text{age}) [\text{ex: } 208 - .7 \times 20 (= 14)] = 194$$

$$\text{MHR} = 208 - \text{_____} (.7 \times \text{age}) = \text{_____} \text{BPM}$$

2. Resting Heart Rate (RHR) = _____ BPM

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

$$\text{HRR} = \frac{\text{_____}}{\text{MHR}} - \frac{\text{_____}}{\text{RHR}} = \text{_____} \text{BPM}$$

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

$$40\% \text{ TI} = \text{_____} (\text{HRR}) \times .40 = \text{_____} + \frac{\text{_____}}{\text{RHR}} = \text{_____} \text{BPM}$$

$$50\% \text{ TI} = \text{_____} (\text{HRR}) \times .50 = \text{_____} + \frac{\text{_____}}{\text{RHR}} = \text{_____} \text{BPM}$$

$$60\% \text{ TI} = \text{_____} (\text{HRR}) \times .60 = \text{_____} + \frac{\text{_____}}{\text{RHR}} = \text{_____} \text{BPM}$$

$$85\% \text{ TI} = \text{_____} (\text{HRR}) \times .85 = \text{_____} + \frac{\text{_____}}{\text{RHR}} = \text{_____} \text{BPM}$$

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.

$$\text{CTZ: } \text{_____} (60\% \text{ TI}) \text{ to } \text{_____} (85\% \text{ TI})$$

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** 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. _____ 2. _____ 3. _____

4. _____ 5. _____ 6. _____

III. BRIEFLY STATE YOUR EXPERIENCES AND FEELINGS REGARDING AEROBIC EXERCISE (MUST TYPE below.)

AEROBIC TRAINING / (HEALTH) FITNESS PLAN (4%)

Due – Apr 26

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 **MUST 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.

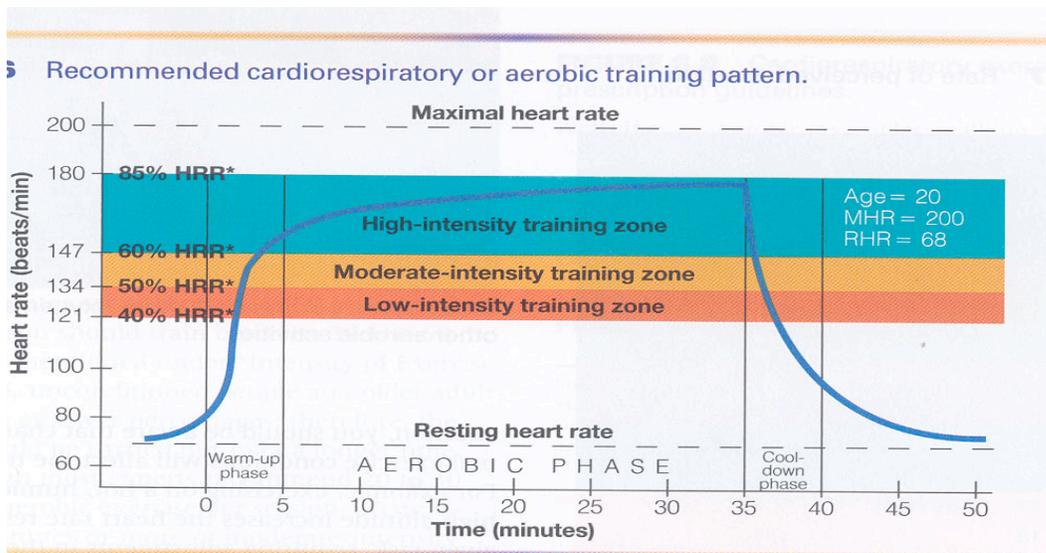
CARDIOVASCULAR TRAINING & EXERTION

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.

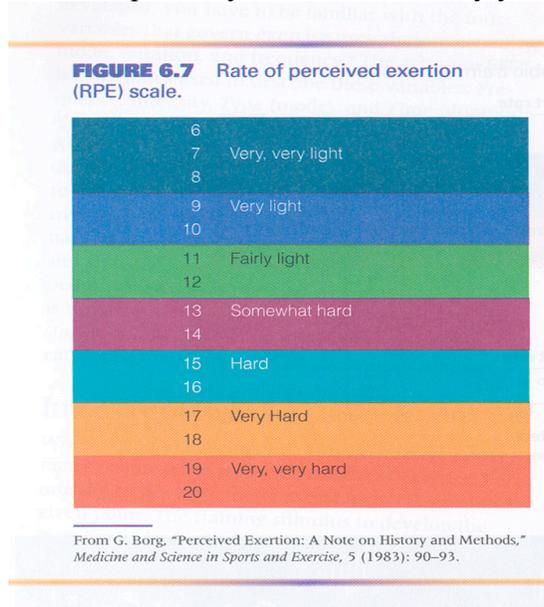
Once you begin to work in the TZ at the moderate-to-high intensity for a period of 8-12 weeks, you should experience a reduction in your *resting HR* of 10-20 beats per minute.



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.



AEROBIC ACTIVITY SEQUENCING OF INTENSITY*

LVL OF			BIKE	ELPTCL	TREADMILL	TIME	JOG	TIME
WEEK	DAY	INTNSY						
1	1	1	1.5 mile walk/jog	NA	NA	Whatever it takes	1.5 mile walk/jog	Whatever it takes
	2	1	50RPM – 1.5” 80 RPM – 30’ for first 20”	75 SPM 1.5” 95 SPM – 30’ for first 20”	3.0 MPH 1.5” 5.0 MPH – 30’ for first 20”	Up to 30”	Walk briskly 1.5”, jog briskly 30’; repeat for first 20”	Total – 20” + Cool Down
	Lecture 1							
2	3	2	55 RPM – 1.5” 85 RPM – 30’ for first 20”	80 SPM 1.5” 100 SPM – 30’ for first 20”	3.5 MPH 1.5” 5.5 MPH – 30’ for first 20”	30”	Walk briskly 1.5”, jog briskly 30’; repeat for first 20”	Total – 30” + Cool Down
	Lecture 2							
	4	2	65 RPM – 1.5” 90 RPM – 30’ for first 20”	85 SPM 1.5” 105 SPM – 30’ for first 20”	4 MPH 1.5” 6MPH – 30’ for first 20”	32”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	31.5” + Cool Down
	Lecture 3							
3	5	3	70 RPM – 1.5” 95 RPM – 30’ for first 20”	90 SPM 1.5” 120 SPM – 30’ for first 20”	4.1 MPH 1.5” 7.1MPH – 30’ for first 20”	34”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	34” + Cool Down
	6	3	75 RPM – 1.5” 100 RPM – 20- 30’ for first 20”	95 SPM 1.5” 125 SPM – 30’ for first 20”	4.3 MPH 1.5” 7.3MPH – 30’ for first 20”	36”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	36 + Cool Down
4	7	4	80 RPM – 1.5” 100 RPM – 30’ for first 20”	100 SPM 1.5” 130 SPM – 30’ for first 20”	4.5 MPH 1.5” 7.5MPH – 30’ for first 20”	38”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	38” + Cool Down
	8	4	80 RPM – 1.5” 100 RPM – 30’ for first 20”	100 SPM 1.5” 130 SPM – 30’ for first 20”	4.5 MPH 1.5” 7.5MPH – 30’ for first 20”	40”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	40” + Cool Down
5	9	5	80 RPM – 1.5” 105 RPM – 30’ for first 20”	100 SPM 1.5” 135 SPM – 30’ for first 20”	4.7 MPH 1.5” 7.7MPH – 30’ for first 20”	42”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	41.5” + Cool Down
	10	6	80 RPM – 1.5” 105 RPM – 30’ for first 20”	100 SPM 1.5” 135 SPM – 30’ for first 20”	5 MPH 1.5” 8 MPH – 30’ for first 20”	44”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	44” + Cool Down
6	11	7	85 RPM – 1.5” 110 RPM – 30’ for first 20”	105 SPM 1.5” 145 SPM – 30’ for first 20”	5.2 MPH 1.5” 8.2 MPH – 30’ for first 20”	45”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	45” + Cool Down
	12	7	85 RPM – 1.5” 110 RPM – 30’ for first 20”	105 SPM 1.5” 145 SPM – 30’ for first 20”	5.2 MPH 1.5” 8.2 MPH – 30’ for first 20”	45”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	45” + Cool Down
7	13	7	85 RPM – 1.5” 110 RPM – 30’ for first 20”	105 SPM 1.5” 145 SPM – 30’ for first 20”	5.2 MPH 1.5” 8.2 MPH – 30’ for first 20”	45”	Jog easy 1.5”, jog briskly 30’; repeat for first 20”	85 RPM – 1.5” 110 RPM – 30’ for first 20”
	14	7	Final Written, Sit-&-Reach & 1.5 mi run/walk	NA	NA	Whatever it takes	1.5 mile walk/jog	Whatever it takes

*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 pain killers.**
- 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 age 30 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.



CONTRACT (1%)

DUE – Mar 22

I HAVE READ AND UNDERSTAND:

1. The assignments, due dates of assignments **to be in on time even if absent**, grading in the syllabus and all other information.
2. That all communication, other than classroom announcements, will be via E-MAIL and no other social media.

Print Name

Signature

Date