Name _____ Date _____ Course Section _____

chapter 1
LABORATORY 1

Personal Health Profile

Think about your overall health status and specific health behaviors and respond to each item below:

	Column A *Yes*	**Column B** *No*
1. Engage in vigorous exercise (running, swimming, brisk walking, aerobics, a related activity) for 20–30 minutes 3 to 5 days per week.	_____	_____
2. Perform resistance exercises to strengthen my bones and muscles.	_____	_____
3. Always warm-up and cool-down before and after exercise.	_____	_____
4. Get 7–8 hours of sleep each night.	_____	_____
5. Know the warning signs for cancer, heart attack, and stroke.	_____	_____
6. See my doctor regularly for checkups.	_____	_____
7. Know the appropriate self-examinations and perform them regularly.	_____	_____
8. Body weight is within the recommended healthy range.	_____	_____
9. Consistently choose low-fat, high fiber foods.	_____	_____
10. Consume salt and sugar in moderation.	_____	_____
11. Eat lots of fruits and vegetables.	_____	_____
12. Have never used tobacco.	_____	_____
13. Socialize with close friends weekly.	_____	_____
14. Always wear my seatbelt.	_____	_____
15. Drive carefully, within the speed limit, and take no unnecessary risks while driving.	_____	_____
16. Abstain from alcohol or drink lightly (no more than 1 drink per day for women, no more than 2 drinks per day for men).	_____	_____
17. Never drink and drive or ride with a driver who has been drinking.	_____	_____
18. Have several stress management and coping strategies that I use successfully.	_____	_____
19. Know my blood pressure and it is within the desirable range.	_____	_____
20. Know my cholesterol level and it is within the desirable range.	_____	_____
21. Have good study habits.	_____	_____
22. Have several leisure time activities which I enjoy.	_____	_____

	Column A *No*	Column B *Yes*
23. Get tired easily.	_____	_____
24. Get very little or no exercise.	_____	_____
25. Eat out often.	_____	_____
26. Consume a diet high in cholesterol and fat.	_____	_____
27. Smoke cigarettes.	_____	_____
28. Use other forms of tobacco.	_____	_____
29. Waste time watching television, sleeping too much, or being idle.	_____	_____
30. Drink to intoxication.	_____	_____
31. Feel l'ife is highly stressful.	_____	_____
32. Frequently feel overwhelmed with too many tasks and expectations.	_____	_____
33. Don't eat breakfast or skip other meals regularly.	_____	_____
34. Do not limit the time that I am exposed to the sun and rarely wear sunscreen.	_____	_____

Add up every check mark made in column A and multiply by 3. Determine your relative risk by identifying your health behavior score in one of the categories below:

Your Score	Grade	Comment
90–100	A	Overall excellent health practices. Few risky behaviors. Nice work.
80–89	B	Good health behaviors. Where could improvements be made?
70–79	C	OK in most areas, but can definitely improve in others.
60–69	D	Need some help in reducing health risks.
Below 60	F	Have few healthy behaviors. Immediate action is needed.

Name _____ Date _____ Course Section _____

chapter 1
LABORATORY 2

Personal Behavior Change Plan

Using the Personal Health Profile, identify at least one area of health behavior that you would like to change. Take a couple of days to consider where you would like to be with that health behavior at the end of the semester. Use the Behavior Change Plan below to generate a strategy for reaching your healthy goal by the end of the course.

1. What is the primary identifiable health behavior that I want to change?

2. When I make this behavior change, I will enjoy the following benefits:

3. What could happen if I do not make this behavior change?

4. The specific date that I am committed to change by is.

   _____

5. The support system that I will notify about my goal and enlist help in attaining it includes:

6. Three possible steps that I must take in order to make this change are:

   Step One—

   Step Two—

   Step Three—

7. People, places, and situations that I must avoid to make this change are:

8. Role models or people who might positively influence me through this endeavor are:

9. I will know that I am working successfully toward my behavior change when:

10. The signs that I need to regroup and develop an alternative strategy are:

11. When my behavior change is accomplished, I will enjoy the following rewards:
    Internal rewards—

    External rewards—

12. I, _____, commit to work toward completing the above behavior change by _____, and I will acknowledge success when _____.

_____ _____
Signature Signature of witness

_____ _____
Date Date

Behavior Change Follow Up

(to be completed on target change date)

I did/did not attain my goal for changing to a healthier behavior.

The reasons I did/did not attain my goal were:

From this behavior change experience, I learned that:

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chapter 2
LABORATORY 1

Cooper's 12-Minute Walking/Running Test

Purpose
To determine the level of cardiorespiratory endurance of college students during a 12-minute running or walking activity.

Equipment
1. Measured running course, preferably a track.
2. Stopwatch

Procedure
1. During a 12-minute period the subject attempts to cover as much distance as possible by either running or walking.

Treatment of Data
1. Distance covered should be rounded off to the nearest ⅛ mile.
2. Consult table below. Locate the distance covered for either men or women under the appropriate age classification, and determine the level of fitness.

12-Minute Walking/Running Test Distance (Miles) Covered in 12 Minutes

		Distance by Age (Years)					
Fitness Category		*13–19*	*20–29*	*30–39*	*40–49*	*50–59*	*60+*
Superior	(males)	>1.87	>1.77	>1.70	>1.66	>1.59	>1.56
	(females)	>1.52	>1.46	>1.40	>1.35	>1.31	>1.19
Excellent	(males)	1.73–1.86	1.65–1.76	1.57–1.69	1.54–1.65	1.45–1.58	1.33–1.55
	(females)	1.44–1.51	1.35–1.45	1.30–1.39	1.25–1.34	1.19–1.30	1.10–1.18
Good	(males)	1.57–1.72	1.50–1.64	1.46–1.56	1.40–1.53	1.31–1.44	1.21–1.32
	(females)	1.30–1.43	1.23–1.34	1.19–1.29	1.12–1.24	1.06–1.18	.99–1.09
Fair	(males)	1.38–1.56	1.32–1.49	1.31–1.45	1.25–1.39	1.17–1.30	1.03–1.20
	(females)	1.19–1.29	1.12–1.22	1.06–1.18	.99–1.11	.94–1.05	.87–.98
Poor	(males)	1.30–1.37	1.22–1.31	1.18–1.30	1.14–1.24	1.03–1.16	.87–1.02
	(females)	1.00–1.18	.96–1.11	.95–1.05	.88–.98	.84–.93	.78–.86
Very Poor	(males)	<1.30	<1.22	<1.18	<1.14	<1.03	<.87
	(females)	<1.0	<.96	<.94	<.88	<.84	<.78

Name _____ Date _____ Course Section _____

chapter 2
LABORATORY 2

1.0 Mile Walk Test

Purpose
To determine the level of cardiorespiratory endurance of individuals unable to run because of injury or poor fitness. This test is recommended for unconditioned people, men over age 40 and women over age 50. One must merely be able to walk briskly while generating a heart rate (HR)? 120 bpm by the completion of the test.

Equipment
Measured one mile course, preferably a track.
Scale to determine body weight prior to the walk and a stop watch.

Procedures
1. Walk the measured 1.0 mile course as fast as possible.
2. Record your walking time and immediately take your pulse for 10 sec.
3. Multiply your pulse by 6 to obtain your exercise HR (bpm).
4. Convert your time from minutes and seconds to minutes and fractions of minutes by dividing the seconds by 60 (i.e., if walking time is 13:30, then 30 sec. divided by 60 sec. = .5 minutes, yielding a total of 13.5 min.).
5. Use the following formula to estimate your Maximal Oxygen Consumption in relative terms as VO_2 max in ml/kg/min.

   VO_2 max = 88.768 – (0.0957 ∞ Wt) + (8.892 ∞ G) – (1.4537 ∞ Tt) – (0.1194 ∞ HR)

   Where: Wt = body weight (lbs), G = gender (0 = female, 1 = male), Tt = total time to walk one mile, and HR = heart rate at the end of the test.

6. Then find and circle your level of fitness based on gender and age using the Fitness Chart.

Example:

20 yr old female weighing 150 lbs completes the one mile walk in 13:30 with an ending HR of 144 bpm. The predicted VO_2 max would be: 37.6 ml/kg/min (Average Fitness Level)

Information needed:

Wt = 150 lbs, gender = 0, Tt = 13 min + (30 sec/60 sec) = 13.5 min, HR = 144 bpm.

VO_2 max = 88.768 – (0.0957 ∞ 150) + (8.892 ∞ 0) – (1.4537 ∞ 13.5) – (0.1194 ∞ 144)
= 88.768 – 14.355 + 0 – 19.62 – 17.19
= 37.6 ml/kg/min

Source: "Validation of the Rockport Fitness Walking Test in College Males and Females," by F. A. Dolgener, L. D. Hensley, J. J. Marsh, and J. K. Fjelstul, *Research Quarterly for Exercise and Sport, 65* (1994), 152–158.

Fitness Chart–Women

Age	*Low*	*Fair*	*Avg.*	*Good*	*High*
20–29	<24	24–30	31–37	38–48	49+
30–39	<20	20–27	28–33	34–44	45+
40–49	<17	17–23	24–30	31–42	42+
50–59	<15	15–20	21–27	28–37	38+
60–69	<13	13–17	18–23	24–34	35+

Fitness Chart–Men

Age	*Low*	*Fair*	*Avg.*	*Good*	*High*
20–29	<25	25–33	34–42	43–52	53+
30–39	<23	23–30	31–38	39–48	49+
40–49	<20	20–26	27–35	36–44	45+
50–59	<18	18–24	25–33	34–42	43+
60–69	<16	16–22	23–30	31–41	41+

Name _____ Date _____ Course Section _____

chapter 2
LABORATORY 3

1.5 Mile Run Test

Purpose
To determine the level of cardiorespiratory endurance of healthy, well conditioned individuals that have been cleared for exercise. This test is *NOT* recommended for unconditioned people, men over age 40, women over age 50 without proper medical approval, or people with known risk factors of heart disease.

Equipment
Measured running course, preferably a track.
Stop watch.

Procedures
1. Complete a warm-up that includes some walking, light jogging, some stretches and perhaps a few calisthenics.
2. Complete the measured 1.5 mile course as fast as possible.
3. Cool down by jogging/walking slowly for another 4–6 minutes. Do NOT sit or lie down immediately after finishing the test.
4. Consult the Estimated Maximal Oxygen Consumption Table below to find and circle your relative VO_2 max in ml/kg/min. Then find and circle your level of fitness based on gender and age using the Fitness Chart (p. 30).

Time	VO_2	Time	VO_2	Time	VO_2	Time	VO_2	Time	VO_2
6:10	80.0	8:50	59.1	11:30	44.4	14:10	35.5	16:40	29.5
6:20	79.0	9:00	58.1	11:40	43.7	14:20	35.1	16:50	29.1
6:30	77.9	9:10	56.9	11:50	43.2	14:30	34.7	17:00	28.9
6:40	76.7	9:20	55.9	12:00	42.3	14:40	34.3	17:10	28.5
6:50	75.5	9:30	54.7	12:10	41.7	14:50	34.0	17:20	28.3
7:00	74.0	9:40	53.5	12:20	41.0	15:00	33.6	17:30	28.0
7:10	72.6	9:50	52.3	12:30	40.4	15:10	33.1	17:40	27.7
7:20	71.3	10:00	51.1	12:40	39.8	15:20	32.7	17:50	27.4
7:30	69.9	10:10	50.4	12:50	39.2	15:30	32.2	18:00	27.1
7:40	68.3	10:20	49.5	13:00	38.6	15:40	31.8	18:10	26.8
7:50	66.8	10:30	48.6	13:10	38.1	15:50	31.4	18:20	26.6
8:00	65.2	10:40	48.0	13:20	37.8	16:00	30.9	18:30	26.3
8:10	63.9	10:50	47.4	13:30	37.2	16:10	30.5	18:40	26.0
8:20	62.5	11:00	46.0	13:40	36.8	16:20	30.2	18:50	25.7
8:30	61.2	11:10	45.8	13:50	36.3	16:30	29.8	19:00	25.4
8:40	60.2	11:20	45.1	14:00	35.9				

Source: Adapted from "A Means of Assessing Maximal Oxygen Intake," by K. H. Cooper, in *Journal of the American Medical Association,* 203 (1968), 201–204; *Health and Fitness Through Physical Activity,* by M. L. Pollock, J. H. Wilmore and S. M. Fox III (New York: John Wiley & Sons, 1978); and *Training for Sport and Activity,* by J. H. Wilmore and D. L. Costill (Dubuque, IA: Wm C. Brown Publishers, 1988).

Name _____ Date _____ Course Section _____

chapter 3
LABORATORY 1

Skinfold Lab and Worksheet

In preparation for this assessment, the subject should wear clothing which will allow the technician access to the appropriate sites. A quiet room which promotes modesty and is free from distractions is best. Subjects should be standing for the test, and all skinfolds should be taken on the right side of the body.

Step I
The technician locates the proper anatomical sites for the three-site skinfold assessment. The sites for men are the chest, abdomen, and thigh. The sites for women are the triceps, suprailium, and thigh. It is important that the sites for the skinfold be accurate. Figure 3.3 assists you in locating the correct sites. The technician may choose to mark them as follows:

Thigh–Use a vertical fold in the front of the thigh halfway between the knee and the hip.

Suprailium–Use a diagonal fold just above the crest of the ilium or hipbone.

Tricep–Use a vertical fold on the back of the upper arm halfway between the shoulder and the elbow.

Abdomen–Use a vertical fold one inch to the right of the umbilicus or navel.

Chest–Use a diagonal skinfold halfway between the shoulder crease and the nipple.

Step II
The technician will grasp the site with their index finger and thumb. Lightly pinch the skin and adipose tissue, but do not grasp muscle. Do not pinch too hard or you may compress the fat and get an inaccurate reading. Take a vertical or diagonal measurement (depending on the site) about one-quarter of an inch from the fingertips. After allowing the tips of the calipers to settle, read the dial to the nearest half millimeter. Take at least two measures at each site to ensure consistency. If the two readings are not the same, conduct further tests until consistent readings are attained. Be sure the skin is released and re-grasped between readings. If tests are going to be repeated at a later date for comparison purposes, conduct them at the same time of day. Also, do not conduct this test soon after exercise, as normal skinfold size will be inflated due to body fluid shifting to the skin.

Step III
Have someone record the three readings on the chart below.

Women		*Men*	
Thigh	_____	Thigh	_____
Suprailium	_____	Abdomen	_____
Triceps	_____	Chest	_____

Step IV

Add the measurements of the three skinfolds. Refer to the skinfold charts found with this lab exercise to determine your percent body fat.

Sum of three skinfolds = _____

Percent body fat = _____

Refer back to Table 3.3 to determine your health classification according to your sum of skinfolds.

Example

Eddie is a 22-year-old male whose skinfold measurements yield the following readings:

Thigh = 15 mm
Chest = 8 mm
Abdomen = 21 mm
Sum of skinfolds = 44 mm
Percent of body fat = 12.5
Fitness category according to body fat = Optimal

Name _____ Date _____ Course Section _____

chapter 3
LABORATORY 2

Body Mass Index Lab and Worksheet

Step I
Attain an accurate measure of your height and weight. A properly calibrated physician's scale is preferred.

Step II
Record height and weight and make the following conversions:

A. Convert weight from pounds to kilograms:

Weight in pounds _____ /2.2 = _____ weight in kilograms.

B. Convert height from inches to meters and square that result:

Height in inches _____ × .0254 = _____ height in meters.

C. Square this result for height in meters squared

Height in meters _____ × height in meters _____ = _____
height in meters squared.

Step III
Use those values in the following formula:

$BMI = wt(kg) / ht(m)^2$

Your Body Mass Index = _____

Step IV
Using the chart found with Table 3.4, identify your health category according to BMI.

Your health category is _____.

Name _____ Date _____ Course Section _____

chapter 3
LABORATORY 3

Waist-to-Hip Ratio Lab and Worksheet

Step I
Using a flexible tape measure, measure hip circumference at the largest point and waist circumference at the smallest point.

Step II
Determine the ratio of those measures using the following:

Waist circumference _____ / Hip circumference _____ = _____
Waist-to-hip ratio.

Step III
Using Table 3.5, compare your waist-to-hip ratio to your relative disease risk.

Your relative waist-to-hip disease risk ratio is _____ .

Name _____ Date _____ Course Section _____

chapter 3
LABORATORY 4

Ideal Body Weight Lab and Worksheet

Step I
After having your percent body fat accurately measured using skinfold calipers or hydrostatic weighing, and after weighing on a physician's scale, calculate your fat weight:

Body weight _____ × percent body fat _____ = _____ fat weight.

Step II
Identify how much lean weight you possess:

Body Weight _____ – fat weight _____ = _____ lean weight.

Step III
Select a target fat percentage which you would desire to attain through proper combination of exercise and healthy diet. Use that target fat percentage to determine ideal body weight:

Lean weight _____ / (1 – _____ selected fat percentage) = _____ ideal body weight.

Step IV
Calculate your weight loss goal by subtracting your ideal body weight from your current body weight:

Body weight _____ – ideal body weight _____ = _____ weight loss goal.

In order to attain your ideal body weight, your goal will be to lose _____ pounds of adipose tissue.

Name _____ Date _____ Course Section _____

chapter 4
LABORATORY 1

Flexibility Lab and Worksheet

Step I
For the modified sit-and-reach, use the procedures found in Chapter 4 and record the maximum distance achieved in the "Actual Value" column on the next page. To determine whether you meet the health standard, refer to Table 4.1.

Step II
For the total body rotation, use the procedures found in Chapter 4 and record the greatest distance achieved in the "Actual Value" column below. To determine whether you meet the health standard, refer to Table 4.2.

Step III
For shoulder flexibility, use the procedures found in Chapter 4 and record the greatest distance achieved in the "Actual Value" column below. To meet the health standard, you must be above the 30 percent rank (Table 4.3) which is a minimum distance of a negative one inch (-1"). You can also record points earned for this test using Table 4.3 as well.

Step IV
Your overall flexibility score can be calculated by giving yourself:

From sit-and-reach and total body rotations tests

4 points	Exceed the health standard
3 points	Meet the standard
2 points	Barely under minimum standard
1 point	Not very close to minimum standard

Be sure to use the proper age category!

Add those points from the shoulder flexibility test (Table 4.3) to those received for the sit-and-reach and total body rotation. Table 4.4 can be used to rate your overall flexibility.

Test	*Actual Value*	*Meet Health Standard? (Y/N)*	*Points*
Modified Sit-and-Reach			
Total Body Rotation			+
Shoulder Flexibility		(≥ -1" = minimum standard)	+
		Overall Flexibility Score	=

Question:

1. Can a person be flexible in some joints and not in others? Why/why not?

Name _____ Date _____ Course Section _____

chapter 5
LABORATORY 1

Muscular Strength/Endurance Lab and Worksheet

Instructions: Complete either Part A, Part B or both if you wish.

Part A

For assessing strength and endurance, use the procedures found in Chapter 5. Complete each test with a partner. No special equipment is required. Record the number of repetitions in the "Actual Value" column below.

To determine whether you meet the health standard for each test, refer to Table 5.5.

Males—complete all four tests: bench jumps, push-ups, crunches, and modified dips.

Females—complete the three appropriate tests: bench jumps, either modified push-ups or standard push-ups, and crunches. If you are an athlete that requires considerable upper body strength, feel free to try the modified dip test. A realistic minimum number would be 20 repetitions.

Your overall score can be calculated by giving yourself points for all tests as follows:

4 points	Exceed the health standard
3 points	Meet the standard
2 points	Barely under minimum standard
1 point	Not very close to minimum standard

Test	*Actual Value*	*Meet Health Standard? (Y/N)*	*Points*
Bench Jumps			
Push-ups/Modified Push-ups			+
Crunches			+
Modified Dips (males only)			+
		Overall Score	=

If your overall strength score is ≥ 8 for females and ≥ 10 for males, you've met the health standards with reasonable success. Review the areas that perhaps need improvement and think about how you might be able to do that.

Part B

If you have access to free weights and/or machines and you have received some general instruction or experience using such weights, you can complete the combined total body strength and endurance test described in Chapter 5. This could be used in place of the above described tests or done in addition to the above tests.

Use the percents shown in Table 5.3 for each specific lift. An example is provided for you on the top of page 81. Use Table 5.4 to determine if you meet and/or exceed the healthy standards for combined strength and endurance. Give yourself points using the same scale as used in Part A.

Test	*# of Reps*	*Meet Health Standard? (Y/N)*	*Points*
Leg Extension			
Leg Curl			+
Bench Press			+
Lat-pulls			+
Arm Curls			+
		Overall Score	=

If your strength/endurance score is ≥ 13 for females or males, you have met the health standards with reasonable success. Review the areas that perhaps need improvement and think about how you might be able to do that.

Questions: Name six fundamental safety issues for safe weight training.

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Chapter 5 – Muscular Strength and Endurance Assessment

(1) Weight training is not as effective as aerobic training in regard to weight loss.

A ☐ Fact

B ☐ Myth

(2) Weight training will help prevent osteoporosis.

A ☐ Fact

B ☐ Myth

(3) Women who lift weights with develop men like muscles.

A ☐ Myth

B ☐ Fact

(4) Lifting weights will cause me to become muscle bond and decrease my flexibility.

A ☐ Fact

B ☐ Myth

(5) Multiple sets of an exercise are a necessity in order to gain strength.

A ☐ Myth

B ☐ Fact

(6) More strength can be gained using free weights than machine weights.

A ☐ Myth

B ☐ Fact