Assurance of Student Learning 2019-2020	
College of Health and Human Services	School of Kinesiology, Recreation & Sport
Exercise Science 554P & 554	
Dr. Mark Schafer	

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages.			
Student Learning Outcome 1: Students develop capacity as practitioners and researchers who use evidence-based practices to implement, assess, and revise consumer-based exercise prescriptions and community health initiatives.			
Instrument 1	**Direct:** A comprehensive exam in Exercise Testing & Prescription (EXS 412) evaluates core knowledge and performance domains for EXS students to be prepared for the American College of Sports Medicine (ACSM) Certified Exercise Physiologist (ACSM – EP) certification exam.		
Instrument 2	**Direct:** A comprehensive hands-on practical final exam in Exercise Testing & Prescription (EXS 412) evaluates core knowledge and performance domains for EXS students to be prepared for the American College of Sports Medicine (ACSM) Certified Exercise Physiologist (ACEM-EP) certification exam.		
Instrument 3	N/A		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 1.		**Met**	**Not Met**
Student Learning Outcome 2: Interpret and apply advanced knowledge of the physiological influence of physical activity/exercise on health & fitness, sport performance, clinical practice, and professional programs (PT, OT, PA, AT, MS).			
Instrument 1	**Direct:** Senior internship portfolio – a comprehensive reflection of the student's entire internship experience. Portfolio includes a log of their days/hours worked (signed by a supervisor), weekly summaries of activities and responsibilities, documents/literature associated with their internship site, pictures, weekly reports, and an overview reflection, as well as other things, as applicable.		
Instrument 2	**Indirect:** Student evaluation from internship agency supervisor**.**		
Instrument 3			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.		**Met**	**Not Met**
Student Learning Outcome 3: Students develop and demonstrate the skills needed to recognize, evaluate and prescribe solutions from an integrated and holistic approach regarding human movement, wellness, and performance.			
Instrument 1	**Direct:** A comprehensive exam in Exercise and Aging (EXS 455) evaluates students' knowledge and understanding of the biopsychosocial aspects of aging, the acute and chronic effects of exercise on older adults, and methodologies for assessing and evaluating the efficacy of exercise programs for older adults.		
Instrument 2	**Direct:** Students in Exercise and Aging (EXS 455) are directly observed implementing a community-based falls prevention program for older adults once per week for the duration of the semester. Their skills are demonstrated and assessed using a structured rubric.		
Instrument 3	**Direct:** Students in Exercise and Aging (EXS 455) create videos demonstrating their skill for recognizing, evaluating, and prescribing a community-based falls prevention program. including information presented during the lecture portion of the course.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.		**Met**	**Not Met**
Program Summary (Briefly summarize the action and follow up items from your detailed responses on subsequent pages.)			
Formative and summative assessment strategies are utilized across the continuum of course offerings in the Exercise Science (EXS) program. The program progresses students from knowledge to action. Based on the scaffolding of the EXS course offerings, each course level (100, 200, 300, and 400 level) introduces additional depth and difficulty for the students to integrate and demonstrate proficiency. Faculty development and communication efforts focus on creating continuity from course to course and course level to course level. Students demonstrate proficiency through high impact practice evaluation strategies that include examinations, lab practical exams, group projects, and co-			

evaluation with practicum/internship preceptors. The EXS courses (EXS 412, EXS 455, and EXS 496) in this Assessment of Student Learning represent the 400 level courses that are a reflection of the building of the knowledge, skills, and abilities in the EXS program and ultimately being prepared for their Internship.

Based on the data and information provided for 2019 – 2020, this Assurance of Student Learning assessment supports that the SLO's for the EXS program have reached the program targets in each categories reported. Moving forward, the EXS faculty will continue to collaborate and ensure that the learning needs of the EXS students are addressed in each of the courses and relevant and meaningful assessments are being used to evaluate student progress of the knowledge, skills, and abilities in the program.

Due to COVID -19 comprehensive exam (for SLO 1) was given in an online format for Spring 2020 due to COVID-19, and this will also be the case for Fall 2020. The content is similar but some open-ended sections had to be altered and the exam was given with a timer in an attempt to prevent students from looking up all answers. For SLO 2 and SLO 3 the actions implemented in 2019 - 2020 are identified in the subsequent pages and new actions are planned for 2020 – 2021.

Student Learning Outcome 1				
Student Learning Outcome	Students develop capacity as practitioners and researchers who use evidence-based practices to implement, assess, and revise consumer-based exercise prescriptions and community health initiatives.			
Measurement Instrument 1	**DIRECT:** A comprehensive exam in Exercise Testing & Prescription (EXS 412) evaluates core knowledge and performance domains for EXS students to be prepared for the American College of Sports Medicine (ACSM) Certified Exercise Physiologist (ACSM – EP) certification exam.			
Criteria for Student Success	Students will score >/= 75% on the comprehensive exam.			
Program Success Target for this Measurement	Our target is for >/= 80% of our students to attain the above criterion of a score of >/= 75% on the comprehensive exam.		**Percent of Program Achieving Target**	Fall 2019: 69% Spring 2020: 84%
Methods	Student enrollment for Fall 2019, N =36 and Spring 2020 N = 32 The multiple-choice comprehensive exam content addresses each of the ACSM – EP performance domains (Health and Fitness Assessment, Exercise Prescription and Implementation, Exercise Counseling and Behavior Modification, and Risk Management and Professional Responsibilities).			
Measurement Instrument 2	**DIRECT:** A comprehensive hands-on practical final exam in Exercise Testing & Prescription (EXS 412) evaluates core knowledge and performance domains for EXS students to be prepared for the American College of Sports Medicine (ACSM) Certified Exercise Physiologist (ACEM-EP) certification exam. **Please attach any/all rubrics used.**			
Criteria for Student Success	Students will score >/= 75% on the hands-on practical final exam.			
Program Success Target for this Measurement	Our target is for >/= 80% of our students to attain the above criterion of a score of >/= 75% on the practical final exam.		**Percent of Program Achieving Target**	Fall 2019: 100% Spring 2020: 100%
Methods	Student enrollment for Fall 2019, N =36 and Spring 2020 N = 32 A practical skills testing environment is designed to mimic exercise testing/prescription knowledge, skills, and abilities in a professional setting. At the end of each semester, EXS 412 students report to the Exercise Physiology lab and randomly draw from a list of practical skills (blood pressure, body composition, aerobic cycle test, flexibility, and strength tests) to perform on a simulated patient. An EXS faculty member utilizes a scoring rubric to access the skills and abilities of each student.			
Measurement Instrument 3	N/A			
Criteria for Student Success	N/A			
Program Success Target for this Measurement	**N/A**		**Percent of Program Achieving Target**	**N/A**
Methods	**N/A**			

Based on your results, highlight whether the program met the goal Student Learning Outcome 1.		**Met**	**Not Met**

Actions (Describe the decision-making process and actions for program improvement. The actions should include a timeline.)

Exercise Testing and Prescription (EXS 412) is a required senior level course with a lab (four credit hours). The course is designed to prepare students for the American College of Sports Medicine (ACSM) Certified Exercise Physiologist (ACSM -EP) certification exam. EXS students can sit for the ACSM – EP certification exam in their final semester their senior year or sit for the exam upon graduation. Based on the assessment of the SLO 1, EXS 412 course content and practical skills align well with ensuring that the EXS students are prepared with the knowledge and hands-on skills necessary to pass the ACSM – EP certification, and in preparing them for careers in physical activity/exercise, health & fitness, sport performance, and/or when pursuing professional programs (PT, OT, PA, AT, MS).

Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)

For future assessments of student learning outcomes, a continued effort will be made to ensure that the EXS 412 course content aligns with the current ACSM – EP certification performance domains and students continue to meet the criteria for student success at the completion of the course. Any updates and/or changes in ACSM guidelines will be integrated into the course content and practical skills. The EXS program will continue to collect information to via an alumni survey to determine the number of students who go on to take and pass the certification exam each year. Based on feedback from a recent alumni survey and individual student responses, students are successfully passing the certification exam. Whether or not the EXS students go on to take the ACSM –EP certification, it is imperative that the students possess the EXS 412 knowledge and skills to pursue a career in this or a closely related field.

Outcome #1: The comprehensive exam was given in an online format for Spring 2020 due to COVID-19, and this will also be the case for Fall 2020. The content is similar but some open-ended sections had to be altered and the exam was given with a timer in an attempt to prevent students from looking up all answers.

Outcome #2: The practical exam has been converted to an online format due to COVID-19. The practical exam now involves a video that is to be submitted demonstrating their practical skills. Students are not randomly assigned a test to perform as they were face-to-face, but instead self-select any test they want to do. Because of this, the exam is slightly easier. The format will remain as such for Fall 2020.

Next Assessment Cycle Plan

Outcomes (#1 and #2) will be assessed again in Fall 2021. The data will be collected from Blackboard by the course instructor each semester. The course instructor enters grades for both the comprehensive and practical exam in Blackboard for each studet each semester. The faculty will also plan to keep track of how many students take and/or pass the exam each semester to help assess whether or not the class is preparing them for certification.

Student Learning Outcome 2	
Student Learning Outcome	Interpret and apply advanced knowledge of the physiological influence of physical activity/exercise on health & fitness, sport performance, clinical practice, and professional programs (PT, OT, PA, AT, MS).
Measurement Instrument 1	**NOTE: Each student learning outcome should have at least one direct measure of student learning . Indirect measures are not required.** Direct: Senior internship portfolio – a comprehensive reflection of the student's entire internship experience. Portfolio includes a log of their days/hours worked (signed by a supervisor), weekly summaries of activities and responsibilities, documents/literature associated with their internship site, pictures, and an overall reflection, as well as other things, as applicable.
Criteria for Student Success	After completing the senior internship, students will receive an overall score of >/= 90% on their portfolio.

Program Success Target for this Measurement	Our target is for >/= 90% of our students to attain the above criterion of a score of >/= 90% on the internship portfolio.	**Percent of Program Achieving Target**	98%	
Methods	Student enrollment for the Fall 2019, N = 17 and Spring 2020, N = 32. Students are provided guidelines and requirements for the portfolio at the time they register for the course. As the Exercise Science program also requires a shorter practicum during the students' sophomore year, which also requires a portfolio, they are usually already aware of the expectations. The portfolios are constructed and submitted via Blackboard. Moving them from a three-ring binder to the Blackboard platform has allowed students to take creative advantage of technology. Students are also required, **prior to beginning their internship hours**, to obtain and submit proof of student liability insurance as well as proof of current certification in CPR/First Aid/AED, regardless of where they are completing their hours.			
Measurement Instrument 2	**Indirect:** Student evaluation from internship agency supervisor.			
Criteria for Student Success	After completing the senior internship, students will receive an overall score of >/= 90% on the evaluation from their internship supervisor.			
Program Success Target for this Measurement	Our target is for >/= 90% of our students to attain the above criterion of a score of >/= 90% on the evaluation from their internship supervisor.	**Percent of Program Achieving Target**	90% of students attained a score of >/=90%	
Methods	Student enrollment for the Fall 2019, N = 17 and Spring 2020 N = 32, Supervisor evaluations were received from 10 supervisors Program faculty have been working with many of the internship supervisors for a number of years, though new ones do periodically get added as students locate new internship sites. Supervisors are informed at the beginning, before they agree to take on a student, of their requirement to submit an evaluation of the student and his/her internship performance. The evaluation is distributed electronically via Qualtrics, and it includes eight required evaluative questions using a Likert scale, an additional 14 optional 14 questions that they answer based on applicability, also using a Likert scale. There are also sections for the supervisor to submit qualitative comments, observed strengths of the student, suggested areas for the student to improve, and a place to suggest a grade…though they are aware that the final grade is determined by the faculty member from both their evaluation and the student's portfolio. Evaluations were received from 10 supervisors; it is likely that the changes with COVID-19 impacted the return rate.			
Measurement Instrument 3	N/A			
Criteria for Student Success	**N/A**			
Program Success Target for this Measurement	N/A	**Percent of Program Achieving Target**	N/A	
Methods	N/A			
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2.			**Met**	**Not Met**
Actions (Describe the decision-making process and actions planned for program improvement. The actions should include a timeline.)				

Our planned actions for improvement to implement in Spring 2020 were as follows:

1. To divide faculty supervisory responsibilities (students have both an agency supervisor as well as a faculty supervisor) across multiple faculty so that the internship workload for faculty, which can be significant particularly at the beginning and end of semesters, spreads out the responsibilities and helps to ensure that faculty site visits are accomplished, as these were very difficult to complete for a single faculty member supervising 20 – 30 students.
2. To construct an evaluation/satisfaction instrument to distribute to our internship students upon completion of the internship. We have never done this, and this would be an effective tool for us to identify areas for improvement in our processes from the students' perspectives.

Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)

We implemented these actions for the Spring 2020 semester, and our follow-up and evaluation were to have occurred during the summer. Evaluation was to be done by program faculty in conjunction with the Exercise Science Advisory Board. Our primary areas of interest were to determine whether, indeed, spreading the faculty supervisory responsibilities was effective for streamlining our procedures and also if it allowed for more/all site visits to be done, as well as to see if we acquired any valuable feedback from the students helping us to identify new areas for improvement.

Follow-up:

1. Spring 2020: several sites were visited by the two faculty supervisors before COVID-19. These visits were mostly to meet with students and evaluate their experiences to date. An informal document was completed by the faculty supervisors as a pilot, but more development is necessary. Site visits discontinued after COVID-19 prevented students from continuing collection of hours.
2. Spring 2020: Students completed evaluation forms of their site and supervisor. These forms were completed on static documents and should be reworked as Qualtrics surveys to better aggregate the data.

Next Assessment Cycle Plan (Please describe your assessment plan timetable for this outcome)

Historically, supervisors are given one opportunity to evaluate the student (recently delivered via a Qualtrics survey). This gives a summative view of the student's performance, but little information on the formative development throughout the semester.

Proposed actions for improvement to begin Fall 2020:

1. Implement a mid-term evaluation by the supervisor delivered via Qualtrics survey.
    a. If a follow up is necessary by the faculy supervisor (as requested by the agency supervisor), one will be granted on the platform agreeable by both parties (videoconferencing, in person, etc.).
2. Develop a faculty site visit form to be completed with faculty visit students at their agency site.
3. Rework student evaluation forms onto Qualtrics platform.
4. Make student portfolios available for all program faculty to begin developing an agreeable rubric for assessment.

This will be assessed at the end of Fall 2020 and during the winter term. Evaluation will be done by the program faculty in conjunction with the Exercise Science Advisory Board.

1. Data will be collected via Qualtrics surveys by the faculty supervisor. The faculty supervisor will provide the data to the program coordinator
2. The faculty site form will serve as the artiefact. Data on this form will be reported from the faculty supervisor to the program coordinator
3. Student evaluation forms will be delivered via Qualtrics for data retrieval. Data will be delivered from the faculty supervisor to the program coordinator.
4. The faculty supervisor will share student portfolios with program faculty. Program faculty will work with the faculty supervisor to develop a rubric for grading portfolios. The portfolio will be the artifact shared with the program coordinator.

Student Learning Outcome 3	
Student Learning Outcome	Students develop and demonstrate the skills needed to recognize, evaluate and prescribe solutions from an integrated and holistic approach regarding human movement, wellness, and performance.

Measurement Instrument 1	**DIRECT:** A comprehensive exam in Exercise and Aging (EXS 455) evaluates students' knowledge and understanding of the biopsychosocial aspects of aging, the acute and chronic effects of exercise on older adults, and methodologies for assessing and evaluating the efficacy of exercise programs for older adults.		
Criteria for Student Success	Students will score >/= 75% on the comprehensive exam.		
Program Success Target for this Measurement	Our target is for >/= 80% of our students to attain the above criterion of a score of >/= 75% on the comprehensive exam.	**Percent of Program Achieving Target**	**83%**
Methods	Student enrollment for the Fall 2019, N = 26 and Spring 2020, N = 35 . Students are administered a multiple choice, true/false, and essay exam to assess their knowledge, skills, and abilities.		
Measurement Instrument 2	**DIRECT:** Students in Exercise and Aging (EXS 455) are directly observed implementing a community-based falls prevention program for older adults once per week for the duration of the semester. Their practical skills are demonstrated and assessed using a structured rubric.		
Criteria for Student Success	Students will score >/= 75% on the practical skills assessment.		
Program Success Target for this Measurement	Our target is for >/= 80% of our students to attain the above criterion of a score of >/= 75% on the practical skills assessment.	**Percent of Program Achieving Target**	**85%**
Methods	Student enrollment for the Fall 2019, N = 26 and Spring 2020, N = 35 The instructor travels to each community site at least one time during the semester to observe students' performances. A structured rubric is used to assess performance.		
Measurement Instrument 3	**DIRECT:** Students in Exercise and Aging (EXS 455) create videos demonstrating their skill for recognizing, evaluating, and prescribing a community-based falls prevention program, including information presented during the lecture portion of the course.		
Criteria for Student Success	Students will score >/= 75% on a rubric assessing students' ability to prescribe, implement, and evaluate the falls prevention program.		
Program Success Target for this Measurement	Our target is for >/= 80% of our students to attain the above criterion of a score of >/= 75% on the rubric assessing students' ability to prescribe, implement, and evaluate the falls prevention program.	**Percent of Program Achieving Target**	**100%**
Methods	Student enrollment for the Fall 2019, N = 26 and Spring 2020, N = 35 Groups of students present their videos during the final week of the semester and respond to questions from the instructor and other students. The videos are assessed using a structured rubric.		
Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 3.		**Met**	**Not Met**

Actions (Describe the decision-making process and actions for program improvement. The actions should include a timeline.)

Exercise and Aging (EXS 455) is designed for students to gain a better understanding of the acute physiological responses and chronic adaptations associated with exercise in the aged population. Because it is critical students develop and demonstrate the skills needed to recognize, evaluate and prescribe solutions from an integrated and holistic approach, the course is heavily focused on engaging students in a semester-long service-learning initiative. Written and oral reflection are used as tools for awareness, deeper understanding, analysis, and interpretation in order to transform the service-learning experiences into meaningful learning. This process is continually updated to ensure complete and accurate assessment of students' service-learning experiences.
We plan to complete the following actions for improvement beginning in the fall of 2021.

1. We will modify the evaluation instrument to distribute to the community site supervisors at the service-learning sites. We are also modifying the evaluation instrument used to assess the students during implementation of the service-learning experience to more accurately assess their ability to integrate the information presented in the classroom.
2. We will modify the group video project to better reflect and assess students' ability to holistically interact with the older adult participants at their service-learning sites. Specifically, students will be asked to provide more evidence of their ability to connect information presented in the classroom with the "real world" needs of older adults. This is valuable for students' future careers in all types of health care professions.

Follow-Up (Provide your timeline for follow-up. If follow-up has occurred, describe how the actions above have resulted in program improvement.)

Follow-up from planned actions for Fall 2019 and Spring 2020:
1. We required students to complete the US Center for Control STEADI training. This training better prepares students to access fall risk in older adults and, ultimately, prescribe appropriate physical activity interventions. Follow-up: All students successfully completed the U.S. Center for Disease Control STEADI training in fall 2019 and spring 2020.
2. We modified the evaluation instrument to distribute to the community site supervisors at the service-learning sites. We are also modified the evaluation instrument used to assess the students during implementation of the service-learning experience to more accurately assess their ability to integrate the information presented in the classroom. Follow-up: The evaluation instrument was modified, but due to the COVID-19 pandemic, the service-learning activity was terminated only a few weeks into the semester and the group video project was replaced with a paper.
3. We modified the group video project to better reflect and assess students' ability to holistically interact with the older adult participants at their service-learning sites.. Follow-up: The group video project was modified, but due to the COVID-19 pandemic, the service-learning activity was terminated only a few weeks into the semester. The group video project was replaced with a paper.

Next Assessment Cycle Plan (Please describe your assessment plan timetable for this outcome)

Dr. Jason Crandall will collect and provide data for student learning outcome #3 again in the spring of 2021 using 1) the comprehensive exam, 2) STEADI training, and 3) student-created videos.

YMCA Submax Bike Test Evaluation

Name _____

Evaluator _____ Score (50 possible) _____

Preparation (15 points)				
Ask age and calculate Age predicted max and 85%	0	1	2	3
Explain purpose of test to client	0	1	2	3
• Submax bike test that predicts aerobic status				
• Data recorded, multiple stages, pace, resistance increments				
Explain HR monitor placement (with water) and have client do it	0	1		
Test client's HR monitor and hand it to evaluator	0	1		
Start timer	0	1		
Adjust seat height (i.e., knee flexed 5-10° with toes on pedal)	0	1	2	3
Palpate 30 Second HR with client seated on bike. Tell evaluator ____/____	0	1		
Have client pedal without any resistance or 0.25 kg at cadence for ~1 min	0	1	2	3
Test (18 points)				
Set pendulum resistance to 0.5 kg	0	1	2	3
Measure client's HR the 2nd and 3rd min (15 seconds)	0	1	2	3
• Tell Evaluator: 1 ____/____, 2 ____/____, 3 ____/____ 4 ____/____, 5 ____/____, 6 ____/____	0	1	2	3
Compare minute 2 HR to minute 3 HR during each stage.	0	1	2	3
• If difference within 5 bpm, consider stage complete				
• If > 5 bpm, continue stage until final 2 minutes of stage meet criteria				
Set second stage pendulum resistance based on final HR of first stage	0	1	2	3
• < 80 bpm, set at 2.5 kg				
• 80-89 bpm, set at 2.0 kg				
• 90-100 bpm, set at 1.5 kg				
• > 100 bpm, set at 1.0 kg				
Compare minute 2 HR to minute 3 HR during each stage.	0	1	2	3
• If difference within 5 bpm, consider stage complete				
• If > 5 bpm, continue stage until final 2 minutes of stage meet criteria				
Cool-Down (3 points)				
Allow client to cool down pedaling at 50 rpm with 0.5 kg of resistance	0	1		
Measure client's HR each minute until below 110 bpm or 3 minutes	0	1		
Thank client and information (i.e., est VO_{2max} and ranking) available in future	0	1		
General (5 points)				
Regularly check client's status (i.e., once every stage)	0	1	2	
Regularly check pendulum resistance	0	1		
Regularly check client's RPM (per stage)	0	1		
Inform client of workload changes prior to increase (per stage)	0	1	2	
Quality (4 points)	1	2	3	4

Comments:

Interpretation (5 points): Points _____

Comments:

Name:_____

Step Test

3- Excellent- still performed with excellent technique
2- Good- skill performed properly with no significant errors in technique
1-Poor- skill not performed or performed inconsistently

_____ Describes the test to the patient

_____Properly sets up all needed elements for the test

_____Ensures patient follows all instructions/performs the test properly (protocol below)

_____Terminates test at the correct time

_____ Appropriate cool-down techniques

Step Test Procedure

1. Set up the heart rate monitor. Start by moistening the sensor and then attach it to the strap.
2. Tie the strap around the chest of the participant just below the chest muscles and attach the hook to the other end of the strap. Adjust the strap to fit tightly but comfortably. The moistened sensor should rest firmly against the skin and the Polar logo should be in a central and upright position (refer to images on the following page)
3. Have the participant put on the heart rate monitor watch. Press the button on the watch so that it will pair with the sensor and wait for the heart rate to be displayed. Take the participant's radial pulse and compare it to that of the heart rate monitor (refer to the heart rate activity of the lab for instructions on taking radial pulse if you have yet to do this). This will allow you to practice skills and to check to see if the monitor is accurate.
4. Have the participant sit on the step for 3 minutes to allow their resting heart rate to reach steady state.
5. Afterward, record the heart rate reading displayed on the monitor before starting the step test.
6. Set the metronome cadence. The cadence should be set to 88 beats per minute for females and 96 beats per minute for males.
7. Allow the participant to listen to the cadence and become familiar with their stepping rhythm for a moment.
8. Instruct the participant that when performing the test, they should step up onto the bench with the lead foot and then bring their second foot onto the bench. Once both feet are on the bench the participant should then step down, still using one foot at a time
9. In order to reduce fatigue of the leg muscles, instruct the participant to switch the lead leg during the test. Have them switch at least once, even if they feel that they don't have to.
10. When the participant indicates that he or she is ready, instruct them to begin the test. When the subject begins, start the timer.
11. After the test has started, record the participant's heart rate every 30 seconds as indicated by the data sheet.

12. At the 3-minute mark, instruct the participant to cease the test and sit on the bench (Do not stop the timer yet). The administrator should then record the participant's heart rate at 3:20. This is the recovery HR value that will be used to predict their VO2Max.

13. Have the participant remain seated. Continue to record their heart rate every 30 seconds until it returns to their baseline value.
14. Use the recovery heart value that you recorded to predict VO2max

15. Compare the predicted VO2Max values to the normative data and determine a percentile and rank for the participant.

Name: _____

Sit and Reach

3- Excellent- still performed with excellent technique
2- Good- skill performed properly with no significant errors in technique
1-Poor- skill not performed or performed inconsistently

Test 1- Box

1. _____ Describe test to the patient
2. _____Make sure muscles feel warm and loose- can do some stretching before the test. Remove shoes.
3. _____Put soles of the feet flat against the sit-and-reach box.
4. _____Stack hands one on top of the other- keep them parallel and do not lead with one or the other.
5. _____Slowly reach forward with both hands as far as possible and hold position for approximately 2 seconds. Exhale and drop the head between the arms when reaching. Knees must remain extended.

Test 2- Wall

6. _____ Describe test to the patient
7. _____Make sure muscles feel warm and loose- can do some stretching before the test. Remove shoes.
8. _____Put soles of the feet flat against the sit-and-reach box.
9. _____Stack hands one on top of the other- keep them parallel and do not lead with one or the other.
10. _____Slowly reach forward with both hands as far as possible and hold position for approximately 2 seconds. Exhale and drop the head between the arms when reaching. Knees must remain extended.

Traditional Sit-and-Reach

1. Place the sit-and-reach box against a wall and instruct the participant to remove shoes.

2. The participant sits with the soles of the feet flat against a sit-and-reach box with the zero mark (metal piece) at 26 cm. Inner edges of the soles should be 6 in apart.
3. Instruct the participant to slowly reach forward with both hands as far as possible, holding this position approximately 2 seconds. Ensure the participant to keep the hands parallel and do not lead with one hand, or bounce. Fingertips can be overlapped and should be in contact with the measuring portion or yardstick of the sit-and-reach box.
4. The score is the most distant point reached with the fingertips. Perform 3 trials and calculate the average score. To assist with the best attempt, the client should exhale and drop the head between the arms with reaching. Testers should ensure that the knees of the participant stay extended; however, the participant's knees should not be pressed down by the test administrator. The participant should breathe normally during the test and should not hold his or her breath at any time.

Wall Sit-and-Reach

1. Instruct the participant to sit on the floor with his or her hips, back and head against a wall.
2. Have the participant extend his or her legs with the feet roughly 20 to 30 cm (8-12 in.) apart.
3. Position the sit-and-reach box against the subject's heels. Stand at the end of the box so it does not slide when the participant performs a reach.
4. Instruct the participant to place one hand on top of the other with palms facing down.
5. Instruct the participant to reach forward as far as possible while keeping his or her hips, back and head in contact with the wall. Shoulders can move forward. Determine how far the person's fingertips reach and record the measurement to the nearest 1.25 cm (0.5 in.). This is called the INDEX line or zero position.
6. Having established a zero position, instruct the subject to reach forward three times during the same movement along the device while making sure to keep his or her palms against the measuring device. The subject should hold the third movement for 2 s while you measure and record.
7. Subtract the measure from Step 5 from the value determined in Step 6. Record on data sheet.
8. Repeat Steps 5 through 7 two more times.
9. Record the best of three trials in the appropriate location on the data sheet.
10. Interpret the results of the test by comparing them with normative data presented on Table 4.13 (purple).

V-Sit Sit-and-Reach

***This test does not require a sit-and-reach box.**

1. Have the subject sit on the floor and fully extend his or her legs with the feet separated by 30 cm (12 in.).
2. Place a meterstick between the subject's legs so that the 23 cm (9.1 in.) mark aligns with the heels. In order to prevent the meterstick from moving, tape it to the floor.
3. Hold the subject's knees to ensure that his or her legs do not bend.
4. Have the subject place one hand on top of the other with palms down and fingertips aligned (Figure 3.7a).
5. Instruct the participant to learn forward and move his or her hands along the meterstick until they are fully extended (Figure 3.7b). This position should be held for 1 or 2 seconds. Record the distance achieved in the data sheet.
6. Repeat steps 3-5 two more times and consider the third trial as the maximal stretch. Record the results of the last trial in the appropriate part of the data sheet.
7. Calculate the average of the three trials and record this value on the data sheet.

8. Compare the average achieved during the tests with the normative data and percentile ranks for the traditional sit-and-reach test.

Name: _____

Push-Up Test

3- Excellent- still performed with excellent technique
2- Good- skill performed properly with no significant errors in technique
1-Poor- skill not performed or performed inconsistently

_____ Describes the test to the patient

_____Properly sets up all needed elements for the test

_____Ensures patient follows all instructions/performs the test properly

_____Terminates test at the correct time

Procedure:

1. The push up test is administered with men starting in the standard position (Figure 11.7) (hands pointing forward and under the shoulder, back straight, head up, using the toes as the pivotal point) and women in the modified "knee push-up" position (legs together, lower leg in contact with mat with ankles plantar-flexed, back straight, hands shoulder width apart, head up, using the knees as a pivotal point) (Figure 11.8).
2. The client/patient must raise the body by straightening the elbows and return to the "down" position, until the chin touches the mat.
3. For both men and women, the subject's back must be straight at all times, and the subject must push up to a straight arm position.
4. The maximal number of push-ups performed consecutively without rest is counted as the score.
5. The test is stopped when the client strains forcibly or unable to maintain the appropriate technique within two repetitions.

Name: _____

3- Excellent- still performed with excellent technique
2- Good- skill performed properly with no significant errors in technique
1-Poor- skill not performed or performed inconsistently

Curl-Up Test

We will be doing a curl-up or crunch test based on the Canadian Society for Exercise Physiology's Health and Fitness Program. This involves concentric and eccentric contractions of the core (abdominal) muscles.

A. _____ Describes the test to the patient.

B. _____ Puts them in a supine position on the ground with the knees bent at 90 degrees. The arms are at the sides, palms facing down with the middle finger touching a piece of tape on the ground (0 mark).A second piece of tape is placed 10 cm apart.

C. _____Set a metronome to a cadence of 50 beats/minute.

D. _____Once timing starts, perform slow, controlled curl-ups in time with the metronome to lift the shoulder blades off the ground (trunk makes about a 30-degree angle with the ground) and slide the middle finger 10 cm to the second marker tape. During the curl-up the palms and heels must remain in contact with the ground. On the return, the shoulder blades and head must contact the ground and the fingertips of both hands must touch the 0 mark.

The curl-up cadence is 25/minute.

E. _____Instruct them to perform as many curl-ups as possible in cadence with the metronome without pausing.

F. _____The test is stopped when the subject is unable to maintain the required cadence or is unable to maintain the proper curl-up technique on two consecutive repetitions.

Name: _____ Section: _____ Date: _____ Grade:____/50

Blood Pressure and Heart Rate Measurement Evaluation

Excellent (5 pts): Skill performed with excellent technique
Good (3 pts): Skill performed properly with no significant errors in technique
Poor (1pt): Skill not performed or performed incorrectly

Skill	Excellent	Good	Poor	Comments
Student sizes cuff to arm				
Proper cuff size is used				
Cuff is applied properly (proper location on arm with respect to artery and antecubital fossa; cuff is applied snugly)				
Arm is supported and elbow is Straight				
Arm is positioned properly (artery at heart level of client)				
Brachial pulse is palpated				
Stethoscope is placed over brachial pulse				
Stethoscope ear tips are facing forward				
Cuff is properly inflated and deflated				
Blood pressure is accurately heard				

Student BP reading _____

Faculty BP reading _____
Faculty asks student: Where does that blood pressure place them in term of risk? Normal, pre, or hypertensive?
_Response: _____

Skill	Excellent	Good	Poor	Comments
Anatomical landmark palpated(radial)				
Proper technique				
Correct mathematical procedure				
Apply Polar Monitor properly				
Obtain a reading from Polar Monitor				

Student HR:_____

Polar HR:_____

Skinfold Test Evaluation

Name _____

Evaluator _____ Score (50 possible) _____

Preparation (6 points)					
Introduce yourself and get client's name		0	1		
Weigh client (or ask) and get personal information (i.e., age)		0	1		
Explain purpose and procedures of test to client		0	1	2	
• Skin thickness to predict percent body fat (not absolute measure)					
• Principle that subcutaneous fat proportional to total body fat					
Ask client if there are any questions or concerns		0	1		
Politely request clothing removal that will affect skinfold assessments		0	1		
Assessment (27 points)					
Take all assessments on right side of body		0	1		
Firmly grasp skinfold between thumb and index finger (left hand overgrip)		0	1	2	
• Pinch starts ~3 inches apart perpendicular to long axis of skinfold site					
• Obese individuals require fingers to be spread apart > 3 inches					
Hold caliper in right hand with contact surfaces of caliper 1 cm below fingers		0	1		
Release caliper grip while continuing to support calipers with right hand		0	1		
Determine reading within 2 seconds after releasing caliper claws		0	1	2	
• Measure skinfold to nearest 0.5 mm					
Avoids jaw slippage by opening calipers before removing from skinfold		0	1		
Record the reading for each skinfold site. Tell evaluator results.		0	1	2	
Rotate through all skinfold sites		0	1		
• tricep (vertical, mid-humerus) _____		0	1	2	
• subscapular (diagonal, below inferior angle) _____		0	1	2	
• pectoral (men 1/2 & women 1/3 between axilla & nipple) _____		0	1	2	
• midaxillary (vertical, midaxillary line, level of xiphoid) _____		0	1	2	
• suprailiac (diagonal, at anterior axillary line) _____		0	1	2	
• abdominal (vertical, 1" to right of navel) _____		0	1	2	
• thigh (vertical, mid-femur) _____		0	1	2	
Measure each skinfold site at least one more time		0	1	2	
• If not within 1 or 2 mm, then retest each individual site					
Conclusion (2 points)					
Have client get dressed immediately after skinfold assessments		0	1		
Thank client and information (i.e., %Body Fat and ranking) available in future		0	1		
General (2 points)					
Briefly mentions where client will be touched prior to each skinfold site		0	1	2	
Qualtity (5 points)	1	2	3	4	5

Comments:

Interpretation (8 points): Points _____

Comments: