

Assurance of Student Learning Report 2022-2023

College of Health and Human Services

School of Kinesiology, Recreation, and Sport

Exercise Science 554 & 554P

Whitley Stone

Is this an online program? Yes No

Please make sure the Program Learning Outcomes listed match those in CourseLeaf . Indicate verification here
 Yes, they match! (If they don't match, explain on this page under **Assessment Cycle**)

Use this page to list learning outcomes, measurements, and summarize results for your program. Detailed information must be completed in the subsequent pages. Add more Outcomes as needed.

Program Student Learning Outcome 1: 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, check whether the program met the goal Student Learning Outcome 1.

Met

Not Met

Program Student Learning Outcome 2: 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 EXS 311 Physiology of Exercise create videos demonstrating their skill to take physiological information, integrate and create a holistic video project that teaches their peers about a chosen topic related to human performance.

Instrument 3

Based on your results, check whether the program met the goal Student Learning Outcome 2.

Met

Not Met

Program Student Learning Outcome 3: Develop capacity as practitioners and researchers to implement evidence-based practices to use, assess, and revise consumer-based exercise prescriptions and community health initiatives based on scientific advancements.

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 and 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-CEP) certification exam.

Instrument 3

Based on your results, check whether the program met the goal Student Learning Outcome 3.

Met

Not Met

Assessment Cycle Plan:

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 reflect the building of the knowledge, skills, and abilities in the EXS program and ultimately being prepared for their internship. Overall, this Assurance of Student Learning assessment supports that the SLO's for the EXS program have reached the program targets in each category. 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. The program will consider assessment of a fourth SLO in CourseLeaf.

Program Student Learning Outcome 1

| | | | |
|--|--|--|---|
| Program 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 | 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. | | |
| Criteria for Student Success | After completing the senior internship, students will receive an overall score of $\geq 80\%$ on their portfolio. | | |
| Program Success Target for this Measurement | Our target is for $\geq 90\%$ of our students to attain the above criterion of a score of $\geq 80\%$ on the internship portfolio. | Percent of Program Achieving Target | Fall 2022- 44.44% Spring 2023- 76.7% |
| Methods | <p>Student enrollment for Fall 2022, N =9 and Spring 2023, N =30.</p> <p>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 using the Bulb app (my.bulbapp.com) and a link to the portfolio is submitted via Blackboard. Moving the portfolios from the Blackboard platform to the Bulb app has allowed students to take even more liberty in being creative with their portfolio. The Bulb app has also allowed students to take their portfolio with them after graduating and share it with potential employers or graduate programs, which previously was not an option. 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.</p> | | |
| Measurement Instrument 2 | Student evaluation from internship agency supervisor. | | |
| Criteria for Student Success | After completing the senior internship, students will receive an overall score of $\geq 90\%$ on the evaluation from their internship supervisor. | | |
| Program Success Target for this Measurement | Our target is for $\geq 90\%$ of our students to attain the above criterion of a score of $\geq 90\%$ on the evaluation from their internship | Percent of Program Achieving Target | Fall 2022- 100% Spring 2023- 74.2% |

| | | | |
|--|--|-------------------------------------|---|
| | supervisor. | | |
| Methods | <p>Student enrollment for the Fall 2022, N = 9 and Spring 2022, N = 31</p> <p>Program faculty have been working with many of the internship supervisors for several 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 her/his internship performance. The evaluation is printed off for their supervisor to complete. The evaluation includes ten items with scoring ranging from one-to-ten for each item, and supervisors are able to mark the item as not applicable if necessary. There are also sections for the supervisor to submit qualitative comments. After completing the evaluation, the supervisor then has a meeting with the student to discuss the scoring that was assigned, observed strengths of the student, and/or suggested are as in need of improvement. Both supervisor and student signatures and dates are required to indicate this meeting took place. The student then scans the document and submits it via Blackboard.</p> | | |
| Based on your results, highlight whether the program met the goal Student Learning Outcome 1. | | <input type="checkbox"/> Met | <input type="checkbox"/> Not Met |
| Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward) | | | |
| <p><u>Results:</u> The results from measurement instrument one were not surprising unfortunately. We have noticed a lack of attention to detail from our students in the past and I believe this is the quantification of that issue. The portfolio guidelines are presented at the beginning of the semester in an assignment specific word document and student chose not to follow it.</p> <p>I was surprised at the outcome of measurement instrument 2 in Spring 2023. While most students performed well at their sites, we did have a few that scored abnormally low. However, when looking at feedback from site supervisors, the low scores generally seemed to be because of punctuality issues rather than abilities and knowledge.</p> <p><u>Conclusions:</u> For the final portfolio, a grading rubric was used during Fall 2022. While the rubric was available all semester for students to review, I am not sure the students took advantage of having the rubric available when creating their portfolios throughout the semester. I posted an announcement during the semester noting how to check the rubric and that they should do so to ensure they are meeting the rubric criteria; however, I only mentioned the rubric once.</p> <p>We have also had some issues with the portfolio platform, Bulb, during the past several semesters. Multiple students have had difficulty getting their accounts to work properly and/or have had problems with making their portfolio content publicly accessible. Although these issues were noted throughout the semester in the feedback sections of graded assignments (Weekly Reports), the students did not fix the errors in their portfolios prior to submitting the final version for grading.</p> <p><u>**IMPORTANT - Plans for Next Assessment Cycle:</u> One issue that we ran into was students having trouble accessing the Bulb platform for their portfolios. We pilot tested another platform (Google Sites) in the Spring of 2023 and will be using that platform moving forward as any issues that occurred could be addressed by the student. Additionally, grades on the portfolio are a reflection on the student as they were primarily determined by work ethic and attention to detail. This fact will be stressed moving forward.</p> | | | |

| Program Student Learning Outcome 2 | | | |
|---|---|--|---|
| Program Student Learning Outcome | 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 $\geq 75\%$ on the comprehensive exam. | | |
| Program Success Target for this Measurement | Our target is for $\geq 80\%$ of our students to attain the above criterion of a score of $\geq 75\%$ on the cumulative final. | Percent of Program Achieving Target | 73% |
| Methods | Student enrollment for the Fall 2022, N =33 and Spring 2023, N = 0. Students are administered a multiple choice, true/false, and essay exam to assess their knowledge, skills, and abilities. | | |
| Measurement Instrument 2 | Direct – Students in EXS 311 Physiology of Exercise create videos demonstrating their skill to take physiological information, integrate and create a holistic video project that teaches their peers about a chosen topic related to human performance. | | |
| Criteria for Student Success | After completing the video project, students will receive an overall score of $\geq 90\%$ on the final video project. | | |
| Program Success Target for this Measurement | Our target is for $\geq 90\%$ of our students to attain the above criterion of a score of $\geq 90\%$ on the final video project | Percent of Program Achieving Target | Fall = 100 % Spring = 100% |
| Methods | Student enrollment for the Fall 2022, N = 38 and Spring 2023, N = 28 Groups of students create a series of videos throughout the semester that are presented during the final class session. They respond to peer and instructor questions. The videos are assessed using a structured rubric. | | |
| Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2. | | <input type="checkbox"/> Met | <input type="checkbox"/> Not Met |
| Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward) | | | |

Results:

Instrument 1 - 455: The results were surprising considering the students were provided access to all course quizzes and presentations throughout the semester. The comprehensive final was constructed using these quizzes and presentations.

Instrument 2 - 311: The results were not surprising as students are given three opportunities to revise their work and learn from past mistakes.

Conclusions:

Instrument 1 - 455: **WHAT WORKED:** Based on the results of the comprehensive final exam, it is clear the majority of the students engaged with the course assignments (presentations, quizzes, and reading assignments) and successfully completed the comprehensive final exam. **WHAT DIDN'T WORK:** A minority of the students did not successfully complete the comprehensive final examination indicating the need to review the presentation of the course materials, especially the PowerPoint presentations and video lectures to ensure students are engaged and retaining the information.

Instrument 2 - 311: **WHAT WORKED:** Based on student feedback, students felt that the project was helpful for the class and somewhat interesting (overall). They appreciated working in groups as members would come up with unique ideas that others might not have thought about. They also felt it was useful to have to “teach” the material in the video because it forced them to know the content on a deeper level. **WHAT DIDN'T WORK:** It would be nice to have video cameras to loan students so that the quality was uniform across all products.

Plans for Next Assessment Cycle:

Instrument 1 - 455: Review course material to ensure the information is presented clearly and in multiple formats including video lectures and Canva presentations. Live review sessions will be offered before the final exam to ensure students have opportunities to ask questions and to clarify any difficult concepts.

Instrument 2 - 311: Continue with the video project in three parts so that students have the opportunity to learn from each other and on formative attempts. Have more opportunities for the students to meet with the faculty member in class time to receive feedback on the project rather than relying on rubrics to translate ideas.

| Program Student Learning Outcome 3 | |
|---|---|
| Program Student Learning Outcome | Develop capacity as practitioners and researchers to implement evidence-based practices to use, assess, and revise consumer-based exercise prescriptions and community health initiatives based on scientific advancements. |
| Measurement Instrument 1 | Direct: A comprehensive exam in Exercise Testing and 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 $\geq 75\%$ on the comprehensive exam. |

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|---|---|--|----------------------------|
| Program Success Target for this Measurement | Our target is for $\geq 80\%$ of our students to attain the above criterion of a score of $\geq 75\%$ on the comprehensive exam. | Percent of Program Achieving Target | Fall: 34% Spring: 63% |
| Methods | <p>Student enrollment for the Fall 2022, N = 35 and Spring 2023, N = 38</p> <p>The multiple-choice and short answer 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).</p> | | |
| 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 $\geq 75\%$ on the hands-on practical final exam. | | |
| Program Success Target for this Measurement | Our target is for $\geq 80\%$ of our students to attain the above criterion of a score of $\geq 75\%$ on the lab practical. | Percent of Program Achieving Target | Fall: 100% Spring: 100% |
| Methods | <p>Student enrollment for the Fall 2022, N = 35 and Spring 2023, N = 26</p> <p>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 assess the skills and abilities of each student.</p> | | |
| Based on your results, circle or highlight whether the program met the goal Student Learning Outcome 2. | | Met | Not Met |
| Results, Conclusion, and Plans for Next Assessment Cycle (Describe what worked, what didn't, and plan going forward) | | | |
| <p>Results:</p> <p>Fall 2022- The instructor was displeased with the low number of students that passed instrument1, (57% of students $>75\%$) as they incorporated a semester long practical application project that was meant to help students as they approached the final cumulative exam. Additionally, the grade distribution of students in instrument 2 (87% of students scored $>89.9\%$) was too high.</p> <p>Spring 2023- For Spring 2023, a higher percentage of students passed the cumulative final exam than Fall 2022, showing some progress. However, this grade does include a curve. The instructor was overall displeased with the final exam scores. There were students who did very well on it, and the instructor feels the exam was fair and prepares them well for the ACSM certification. However, it seems that many students were not prepared (it could be because they did not believe their final exam score would change their final</p> | | | |

grade). Similar to Fall, the cumulative final exam was composed of test questions from previous exams and was meant to mimic the certification examination students would sit for and was asking broader, overarching questions from each section. It appears students were not keeping up on previous materials or trying to relate them to what they were currently learning.

Conclusions:

Fall 2022: The practical application project students spent the semester doing did not transfer over to their cumulative final exam which is surprising because the consensus was that the project helped students understand the content in a different way than lectures. The cumulative final exam was composed of test questions from previous exams and was meant to mimic the certification examination students would sit for and was asking broader, overarching questions from each section. It appears students were not keeping up on previous materials or trying to relate them to what they were currently learning.

Spring 2023: Overall, students received A's and B's on the practical exam. The instructor was pleased to see that they did obtain many of the practical skills needed to go out and work in the field of exercise science. I

Plans for Next Assessment Cycle:

From a curriculum perspective, we have made some changes to our class sequences so that students will have adequate background knowledge to fully apply the appropriate foundational exercise physiology principles to exercise prescription. Additionally, I am going to start incorporating small amounts of content from previous exams on all subsequent exams to force students to keep up with material discussed earlier in the semester. That said, the cumulative final must maintain a certain level of rigor to prepare students for the certification. It is a disservice to the high-quality students to lower testing standards so more people achieve the 75%. Improvement could be made by doing the practical exams a little earlier in the semester and allowing students more time to receive feedback on what they could do better. Most students were happy with their grades so did not ask about errors they made. This should be improved.

Curriculum Map

Exercise Science
School of Kinesiology, Recreation, and Sport
College of Health and Human Services
Dr. Whitley Stone (contact)
Whitley.stone@wku.edu (email)

Key

- I = introduced
- R = Reinforced/developed
- M = Mastered
- A = Assessed

| | | | Learning Outcomes | | | |
|-----------------------|---------------|----------------------------------|--|---|---|--|
| | | | LO 1 | LO 2 | LO 3 | LO 4 |
| | | | 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). | Develop and demonstrate the skills needed to recognize, evaluate, and prescribe solutions from an integrated and holistic approach regarding human movement, wellness, and performance. | Develop capacity as practitioners and researchers to implement evidence-based practices to use, assess, and revise consumer-based exercise prescriptions and community health initiatives based on scientific advancements. | Develop compassion for underserved and diverse communities through service-learning and community engagement experiences |
| Course Subject | Number | Course Title | | | | |
| EXS | 122 | Foundations of Kinesiology | | | I | |
| EXS | 223 | Introduction to Exercise Science | I | I | | |
| EXS | 296 | Practicum in Exercise Science | | R | R | I |
| EXS | 310 | Kinesiology | I | I | | |

| | | | | | | |
|-----|-----|---|-------------|----------------|-------------|-------------|
| EXS | 311 | Physiology of Exercise | R | | | |
| EXS | 313 | Motor Learning and Control | | I, A | I, A | |
| EXS | 324 | Measurement and Evaluation in Kinesiology | | R | I, R | |
| EXS | 325 | Applied Exercise Physiology | I, R | R | | |
| EXS | 412 | Exercise Testing and Prescription | R | M | R | |
| EXS | 420 | Clinical Exercise Physiology | R | R, M, A | R, M | |
| EXS | 436 | Strength and Conditioning | M | A | R | |
| | 446 | Biomechanics | | I, A | | |
| EXS | 455 | Exercise and Aging | | I | M | I |
| EXS | 496 | Internship in Exercise Science | R, M | R, M | R, M | R, M |

| | Novice | Proficient | Excellent |
|---|--|---|--|
| Home Page | <input type="radio"/> Points: 0 (0.00%) Not provided or minimal effort demonstrated. Could not access. | <input type="radio"/> Points: 5 (5.00%) One or the other provided. Non-professional photo provided. Brief bio demonstrates minimal effort. All content pages not included; not named appropriately. | <input type="radio"/> Points: 10 (10.00%) Professional photo and brief bio provided. Contains all content pages; named appropriately. |
| Internship Information | <input type="radio"/> Points: 0 (0.00%) Did not include. Picture was a selfie. The following was not included: Facility Name and Physical Address, Supervisor Name, Supervisor Phone Number, Supervisor Email Address. Could not access. | <input type="radio"/> Points: 5 (5.00%) Picture not included, high-quality, or visible. Picture not at Internship site. Some of the following was not included: Facility Name and Physical Address, Supervisor Name, Supervisor Phone Number, Supervisor Email Address | <input type="radio"/> Points: 10 (10.00%) Includes high-quality picture of you at your Internship Site. Includes the following: Facility Name and Physical Address, Supervisor Name, Supervisor Phone Number, Supervisor Email Address |
| Professional Goals | <input type="radio"/> Points: 0 (0.00%) Answered no prompts or could not access. | <input type="radio"/> Points: 5 (5.00%) Answered 1-2 prompts. | <input type="radio"/> Points: 10 (10.00%) Answered three or more prompts. |
| Professional Resume | <input type="radio"/> Points: 0 (0.00%) Did not include resume or permanent email address and social media handles or could not access. | <input type="radio"/> Points: 5 (5.00%) Includes resume, but it is not well-organized or does not include both academic and professional experience; or did not include permanent email address and social media handles. | <input type="radio"/> Points: 10 (10.00%) Includes a well-organized resume representing academic and professional experience. Includes comment with permanent email address and social media handles. |
| Log of Internship Hours | <input type="radio"/> Points: 0 (0.00%) Did not include log of internship hours, did not use required log sheet and did not keep a running tally. Internship supervisor signature not included. Could not access. | <input type="radio"/> Points: 5 (5.00%) Includes log of internship hours, but did not use required log sheet or did not keep a running tally, or internship supervisor signature not included. | <input type="radio"/> Points: 10 (10.00%) Includes log of internship hours on required sheet and kept running tally. Internship supervisor signature included. |
| Weekly Journal Entries & Documentation | <input type="radio"/> Points: 0 (0.00%) The following was not included/failed: Weekly entries for every week. At least half of the entries include pictures/videos of experiences. Formatting for entries follows guidelines. Could not access. | <input type="radio"/> Points: 15 (15.00%) One to two of the following was not included/failed: Weekly entries for every week. At least half of the entries include pictures/videos of experiences. Formatting for entries follows guidelines. | <input type="radio"/> Points: 30 (30.00%) Includes weekly entries for every week. At least half of the entries include pictures/videos of experiences. Formatting for entries follows guidelines. |
| Reflection on Internship Experience | <input type="radio"/> Points: 0 (0.00%) Mostly incomplete or could not access. | <input type="radio"/> Points: 10 (10.00%) Missing a video or videos were incomplete. Missing webcam. No clear path for discussion (seemed to figure it out along the way). Generally rushed. | <input type="radio"/> Points: 20 (20.00%) Video 1 complete with: - why you chose the site -what you liked/disliked -what did you learn about the facility as they handled COVID-19? Video 2: complete with - what did you learn and will use in your future - what did you wish you would have learned? -Does the job still interest you? -What are your next steps toward a career? Followed all guidelines: -Spoke clearly and dressed appropriately - webcam enabled -There was a plan for content |

EXS 296 STUDENT FINAL EVALUATION

Please rate your practicum student from 1-10 on the following items. Feel free to use the space below each question to make any additional comments

Please complete this review either (1) between 125-150 hours; (2) immediately after the student completes their hours; or (3) by August 5th – whichever comes first!!

* Indicates required question

1. Student's First and Last Name *

2. Your First and Last Name *

3. Your best contact mode (email, phone, etc.) in the instance follow up is requested. *

Ability to organize and carry out tasks

Please rate the student's ability to organize and carry out tasks you requested/needed across the semester.

4. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|--|--|--|---|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 | <input type="checkbox"/> 7 <input type="checkbox"/> 8 | <input type="checkbox"/> 9 <input type="checkbox"/> 10 |
| Has some difficulty organizing and carrying out assigned tasks. | Manages to organize and carry out most assigned tasks in a competent manner | Very well organized and carries out assigned tasks in a professional manner. | Exceptionally well organized. Carries out assigned tasks in an exemplary manner |

Mark only one oval.

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5. Additional Comments

Quality of assigned work

6. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|---|---|---|---|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Below expectations. Needs frequent instruction and supervision. Work completed is less than satisfactory. | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Meets expectations. Needs some supervision. Quality of work is competent. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Usually exceeds expectations. Needs very limited supervision. Work is of very good Quality | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Consistently exceeds expectations. Work is always of highest quality. |

Mark only one oval.

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7. Additional Comments

Time Management

8. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
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| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Procrastinates much of the time. Does not complete most tasks in a timely manner. | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Average ability to manage time on tasks. Some procrastination but most tasks are completed on time. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Very efficient in managing time on tasks. All tasks are completed on time. | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Exceptional ability to manage time on tasks. Most work is completed ahead of schedule. |

Mark only one oval.

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9. Additional Comments

Ability to communicate orally

10. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
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| <p><input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3</p> <p>Has difficulty conveying information/ideas to individuals and groups. Does not seem to be comfortable with oral communication</p> | <p><input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6</p> <p>Can competently express information/ideas to individuals and groups. Reasonably comfortable in most situations.</p> | <p><input type="checkbox"/> 7 <input type="checkbox"/> 8</p> <p>Very effective conveying information/ideas to co individuals and groups. Comfortable during oral communication.</p> | <p><input type="checkbox"/> 9 <input type="checkbox"/> 10</p> <p>Exceptional ability to communicate information/ideas effectively to individuals and groups. Very comfortable and confident during oral communication.</p> |

Mark only one oval.

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11. Additional Comments

Ability to communicate in writing

12. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|---|---|---|--|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Below expectations. Has difficulty conveying information/ideas in writing. Numerous errors. | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Can satisfactorily convey information/ideas in writing. Usually free of errors. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Very effective in conveying information/ideas in writing. Errors are rare. | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Exceptional ability to communicate information/ideas in writing. Work is free of errors. |

Mark only one oval.

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13. Additional Comments

Dependability and responsibility

14. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|---|--|--|--|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Sometimes fails to complete work. Requires a lot of supervision in order to produce work. | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Can be counted on to have task completed when required. Sometimes needs some supervision to do so. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Can always be counted on to have tasks completed. Is conscientious in performance of all assigned duties. | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Exceptionally dependable and responsible in all circumstances. |

Mark only one oval.

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15. Additional Comments

Initiative and enthusiasm

16. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
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| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Must be pushed to get projects started and completed. Does not display enthusiasm for assigned work | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Usually enthusiastic about work assignments. Sometimes waits for assignments and projects rather than taking initiative. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Self-starter. Makes the most of opportunities. Enthusiastic and requests additional responsibilities. | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Consistently exceeds expectations in this area. Regularly requests opportunities to explore new assignments and projects. Makes the most of every opportunity. |

Mark only one oval.

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- 10

17. Additional Comments

Ability to work with others in the organization

18. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|--|--|--|---|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Usually gets along with people in the organization. Rarely initiates contact with another person and could be more outgoing. | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Gets along well with people in the organization. Usually initiates contact with other personnel. Usually outgoing. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Very good relationship with personnel at all levels of contact. Interaction is positive and productive. | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Exceptionally good relationships with personnel at all levels. Interaction is positive, productive, and sensitive to the needs of others. |

Mark only one oval.

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19. Additional Comments

Professional appearance and behavior

20. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|--|---|--|--|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 Needs to be reminded frequently about appropriate attire and behavior in the work setting. | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 Seldom needs to be reminded of appropriate attire and behavior in the work setting. | <input type="checkbox"/> 7 <input type="checkbox"/> 8 Appearance and behavior are always appropriate to the work setting. | <input type="checkbox"/> 9 <input type="checkbox"/> 10 Appearance and behavior are exceptional and worthy of emulation by others. |

Mark only one oval.

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21. Additional Comments

Ability to accept and utilize suggestions to improve performance

22. *

| Needs Improvement | Satisfactory | Very Good | Excellent |
|--|--|--|---|
| <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 | <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 | <input type="checkbox"/> 7 <input type="checkbox"/> 8 | <input type="checkbox"/> 9 <input type="checkbox"/> 10 |
| Almost always rejects or discounts suggestions to improve performance. Rarely, if ever, attempts to utilize suggestions. | Usually accepts suggestions to improve performance. Usually successful in utilizing suggestions. | Always welcomes suggestions to improve performance. Makes a concerted effort to utilize the suggestions. | Always welcomes and solicits suggestions to improve performance. Exceptionally successful in this endeavor. |

Mark only one oval.

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- 23. Feel free to provide any additional comments for the student's faculty advisor to consider when evaluating their performance.

Skip to question 24

Need for Follow Up

Would you like to speak with the WKU faculty instructor regarding the student's performance?

- 24. Follow Up Needed?

Mark only one oval.

Yes

No

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1. The continuum of aging suggests older adults are more _____ with respect to their physical abilities.
 - a. Similiar
 - b. Heterogenous
 - c. Alike
 - d. None of the above

2. Which of the following is one of the two main factors that effect acceptability of physical activity interventions for older adults?
 - a. Cost
 - b. Location
 - c. Value
 - d. Individuality
 - e. None of the above

3. A focus on increasing years of health rather than lengthening life.
 - a. Compression of mortality
 - b. Reductions in fraility
 - c. Compression of morbidity
 - d. None of the above

4. It is generally accepted that _____ muscle fibers are more effected by age compared to _____ muscle fibers. However, there is evidence to suggest both types of fibers are equally effected.
 - a. Type I, Type II
 - b. Type II, Type I
 - c. Type IA, Type IIA
 - d. Type IIA, Type IIB

5. Uncoupling of bone resorption and formation can result in older adult bone loss that is 2.5 standard deviations below the mean of young women. This condition is called _____.
 - a. Osteoporosis
 - b. Osteoarthritis
 - c. Osteostatic
 - d. None of the above

6. Renal function decreases after the age of 40 as glomular filtration rate and the size and number of nephrons decrease. This results in the older adult having a reduced capacity to _____.
 - a. Perform ADL's
 - b. Pncrease fat mass

- c. Clear medications from their system
 - d. None of the above
7. Older adults need moderate intensity aerobic physical activity for a *minimum* of _____ minutes _____ days each week or vigorous intensity for a *minimum* of 20 minutes on 3 days each week. Any amount of physical activity counts towards the daily goal.
- a. 20, 3
 - b. 30, 5
 - c. 60, 5
 - d. None of the above
8. Cardiovascular training performed at moderate to high intensities has the potential to improve crystallized intelligence in some older adults.
- a. True
 - b. False
9. Per ACSM guidelines, older adults should perform resistance training at least ____ time(s) per week.
- a. 1
 - b. 2
 - c. 4
 - d. None of the above
10. Adaptations to endurance training on endothelial function are increased in healthy postmenopausal women compared with middle-aged and older men.
- a. True
 - b. False
11. Ensuring the environment is conducive to physical activity and addressing the individual's characteristics increases the chance of achieving a desired behavior. This interaction is called....
- a. Circular effect
 - b. Reciprocal determinism
 - c. Reciprocal variability
 - d. None of the above
12. Older adults have problems with temperature regulation in the heat. These changes can be due to a reduction in _____.
- a. Subcutaneous fat
 - b. Type II muscle fibers
 - c. Number of sweat glands
 - d. None of the above

13. Epinephrine levels are higher in older adults compared to young adults during rest and exercise.
- True
 - False
14. ----- strength has been shown to predict future mortality in men.
- Quadriceps
 - Eccentric
 - Grip
 - None of the above
15. The cerebral vascular hypothesis states that exercise stimulates the growth of new capillaries in the brain. This process is called _____.
- Angiogenesis
 - Gluconeogenesis
 - Hypertrophy
 - None of the above
- 16. Given the following information, determine Mary's physiological reserve after climbing a flight of stairs.**
- Mary's current maximum extensor power = 3.0 W/KG body weight
 - Power required to climb stairs = 3.3 W/KG body weight
- 0.3 W/KG body weight
 - 0.03 W/KG body weight
 - 1.30 W/KG body weight
 - None of the above
17. Brain games have far reaching positive effects on executive function similar to long-term exercise training.
- True
 - False
18. Older adults' resting heart rates are generally higher when compared to young adults.
- True
 - False
19. Inactive older adults experience a reduction in cardiac output due to small decreases in stroke volume and gradual decreases in maximal heart rate.
- True
 - False

20. All of the following are suggested mechanisms contributing to anabolic resistance in older adults **EXCEPT**
- a. Reduced amount or activation status of key signaling proteins
 - b. Impaired insulin-mediated muscle tissue perfusion
 - c. Accelerated muscle protein breakdown or proteolysis
 - d. None of the above
21. A condition characterized by age-related reductions in fat-free body mass and increases in fat mass is called _____.
- a. Obesity
 - b. Sarcopenia
 - c. Morbid obesity
 - d. None of the above
22. Where does an individual likely reside who is unable to live independently, but does not require the level of care provided by a nursing home?
- a. Adult day care
 - b. Hospice care
 - c. Assisted living
 - d. Independent living community
23. Which of the following is **NOT** a characteristic of the frail elderly?
- a. High socioeconomic status
 - b. Possible isolated living condition
 - c. More frequent hospital stays
 - d. Poor mental health
24. Which is an example of an Activities of Daily Living (ADL)?
- a. Walking
 - b. Running
 - c. Grooming
 - d. Climbing stairs
25. Which of the following is **NOT** an example of an Instrumental ADL (IADL)?
- a. Bathing
 - b. Laundry
 - c. Grocery shopping
 - d. Housework
26. Which of the following is **NOT** an effect of aging on the gastrointestinal system?

- a. Decreased estrogen levels
- b. Reduced GI secretions
- c. Decreased efficient liver metabolism
- d. Decreased regenerative capacity of liver

27. What type of facility is necessary for an individual who needs supportive and palliative care at the end of his/her life?

- a. Hospice care
- b. Nursing home
- c. Adult day care
- d. Home health care

28. Which term accurately describes the process of cells dividing and reproducing a limited number of times?

- a. Cell clock
- b. Free radical oxidation
- c. Hayflick limit
- d. Sarcopenia

29. Which is the term for the loss of muscle mass due to aging?

- a. Atrophy
- b. Osteopenia
- c. Hypertrophy
- d. Sarcopenia

30. Which is a consequence of decrease in fat-free mass?

- a. Insulin sensitivity
- b. Glucose intolerance
- c. Rapid gait speed
- d. Improved maximal aerobic capacity

31. Which of the following does not describe motivation among the older population?

- a. Includes choices of what tasks to do
- b. Includes perception of performance (capable, not capable)
- c. Relatively the same over time and between individuals
- d. None of the above

32. Which of the following is the first stage of change on the transtheoretical model?

- a. Precontemplation
- b. Preparation
- c. Contemplation
- d. None of the above

33. The interaction between the individual, the environment and the behavior is called _____.

- a. Reciprocal determinism
- b. Personal characteristics
- c. Motivation
- d. Self-efficacy

34. Which of the following is not a source of self-efficacy information?

- a. Mastery experiences
- b. Vicarious experiences
- c. Social persuasion
- d. Physical stress

35. Physical activity self-definitions depend on all of the following **EXCEPT**

- a. Perceptions about the behavior
- b. Motivation to engage in the behavior
- c. Significant others acknowledge that self-definition
- d. Motivation to stop the behavior

36. Effective modeling includes all of the following **EXCEPT**

- a. Naming the exercise, then allowing the client to try
- b. Speaking clearly and demonstrating the entire exercise
- c. Giving the client exercises they are not comfortable doing
- d. Advancing the program after the client successfully performs the exercises

37. All of the following are essential components of modeling **EXCEPT**

- a. Attention
- b. Retention
- c. Mastery
- d. Motor production

38. Which of the following is not a reason for assessing the physical fitness level of older adults?

- a. To identify strengths of older individuals
- b. To help set goals
- c. To see progress toward goals
- d. None of the above

39. Which of the following is a functional fitness test?

- a. Cardiorespiratory fitness
- b. Motor agility
- c. Speed/agility
- d. Body composition

40. Which is **NOT** an example of IADL?

- a. Traveling
- b. Household chores
- c. Managing finances
- d. Dressing oneself

41. The six-minute walk test is an assessment of which physical fitness parameter?

- a. Cardiorespiratory fitness
- b. Body composition
- c. Lower body endurance
- d. Lower body strength

42. The two-minute step test involves which of the following piece(s) of equipment?

- a. 18-in ruler
- b. Stopwatches
- c. Masking tape
- d. 5-pound dumbbell

43. Which is **NOT** an example of a STEADI assessment?

- a. Timed up and go
- b. Sit and reach
- c. 4-stage balance test
- d. 30-second chair stand

44. To decrease the risk of injury during musculoskeletal testing, which of the following is necessary?

- a. Avoid the Valsalva maneuver
- b. Perform long duration isometric tests
- c. Load should require more than 8-10 reps
- d. Perform unstable forceful movements

45. Which of the following tests is part of the Short Physical Performance Battery?

- a. Chair stand test
- b. Gait speed test

- c. Balance tests
- d. All of the above

46. What is the primary safety concern during musculoskeletal testing?

- a. Blood pressure increase
- b. Hypotension
- c. Increased heart rate
- d. Breath rate increases

47. Select the following that are components of fluid cognitive abilities.

- a. Processing speed
- b. Inhibition
- c. Working memory capacity
- d. Remembering

48. Consistent positive associations have been found between physical functioning and cognition, particularly for fluid abilities such as executive function and processing speed.

- a. True
- b. False

49. There is no association between cognitive function and better performance on lower limb function and balance, motor speed, grip strength and composite physical functioning measures.

- a. True
- b. False

50. Which is **NOT** a component of executive function/control:

- a. Planning
- b. Scheduling
- c. Coordination
- d. Remembering

51. Which is the most prevalent subtype of dementia?

- a. Alzheimer's
- b. Lewy body
- c. Vascular
- d. Frontotemporal

52. Which of the following is **NOT** a factor of sarcopenia associated with muscle pathology?

- a. Reduced velocity of movement
- b. Loss of motor units

- c. Change in fiber type
- d. Muscle fiber atrophy

53. Upper extremity muscles change less than lower extremity muscles with aging.

- a. True
- b. False

54. What percentage of total motor units is typically lost per year beginning in the third decade?

- a. 1%
- b. 10%
- c. 2.5%
- d. 5%

55. Which of the following is **NOT** an age-related factor of sarcopenia?

- a. Physical inactivity
- b. Sex hormones
- c. Apoptosis
- d. Mitochondrial dysfunction

56. Which of the following are effects of sarcopenia on heart structure?

- a. Thickening of tunica intima
- b. Increased size of left atrial chamber
- c. Thinning of left ventricle
- d. Decreased stiffness of aorta

57. _____ was traditionally defined as a decline in muscle mass.

- a. Sarcopenia
- b. Dynapenia
- c. Hypoplasia
- d. Atrophy

58. What percentage of women >65 years old have hypertension?

- a. 70%
- b. 65%
- c. 60%
- d. 45%

59. _____ is the primary event in aging muscle, especially in those >80 years old.

- a. Muscle atrophy
- b. Denervation

- c. Hyperplasia
- d. Dynapenia

60. Postural Control Strategies include strengthening the toes, ankle and calf muscle to reduce body sway.

- a. True
- b. False

61. The intrinsic systems that contribute to balance and mobility include:

- a. Cognitive, Balance, Visual
- b. Visual, Balance, Power
- c. Motor, Balance, Power
- d. Sensory, Motor, Cognitive
- e. All of the above

62. Stepping in a hole or being bumped in a crowd involves **anticipatory postural control** to keep your balance.

- a. True
- b. False

63. The large number (polypharmacy) and types of prescribed medications can be a major cause of falls in older adults.

- a. True
- b. False

64. Researchers in 2018 found participants with consistently high or increased _____ had lower risk of dementia than those with consistency lower _____.

- a. LDL cholesterol
- b. Social engagement
- c. HDL cholesterol
- d. Sarcopenia
- e. None of the above

65. Describe the components of an all in one (AIO) exercise program for one of the older adults at your community site. Include the following in your description:

- a. What type of facility?
- b. Discuss physiological and psychosocial factors that have and will affect your client. For example, changes in muscle mass, environment, cognition, reaction time, etc.
- c. How will you use behavioral theory?
- d. How will you address barriers?
- e. How will you emphasize benefits?
- f. Specifically describe the exercises you will use and why.

Film Festival Peer Grading Rubric- Title of Film:

| | Did Not Meet Expectations | Partially Met Expectations | Met Expectations (Full Credit) |
|---|---|--|--|
| Subject (20%) | <ul style="list-style-type: none"> <input type="checkbox"/> Few group members were featured on camera. Overall, not very interesting. <input type="checkbox"/> Educational material was superseded by ancillary or distracting material. <input type="checkbox"/> The video minimally presented educational material. Few students took part in presenting content. <input type="checkbox"/> The topic was discussed in a superficial way, lacking details necessary for understanding. <input type="checkbox"/> The video neither entertainment or education. | <ul style="list-style-type: none"> <input type="checkbox"/> Group members engaged the camera and each other, but not in an interesting way. <input type="checkbox"/> Educational material was presented, but was often distracted by ancillary/unnecessary content. <input type="checkbox"/> Educational material was either too advanced or too novice for undergraduate studies. <input type="checkbox"/> Lacked in details needed to understand the topic chosen. <input type="checkbox"/> The video was either all entertainment or all education – neither are truly useful. | <ul style="list-style-type: none"> <input type="checkbox"/> The video was interesting and kept the attention of viewers <input type="checkbox"/> The video was centered around delivering educational material. <input type="checkbox"/> Educational content was relevant to undergraduates in exercise physiology. <input type="checkbox"/> Enough detail was provided to support full understanding of the topic without divulging extraneous/distracting information. <input type="checkbox"/> The video was entertaining and did not distract from the purpose of teaching. |
| Content (20%) | <ul style="list-style-type: none"> <input type="checkbox"/> It is unclear how the topic chosen related to exercise physiology OR the video diverged too far away from the topic. <input type="checkbox"/> No attempt at using course terms in the presentation. <input type="checkbox"/> Minimal to no visuals or graphics provided OR those presented distracted from the content. <input type="checkbox"/> Few group members behaved professionally and less were featured on camera. <input type="checkbox"/> No evidence of effort, critical thinking, or a true attempt to think beyond baseline knowledge. Not useful. | <ul style="list-style-type: none"> <input type="checkbox"/> Content was indirectly related to exercise physiology. <input type="checkbox"/> Language used throughout was similar to class, but not always applied appropriately, properly, or effectively. <input type="checkbox"/> Images and graphics were present, but did not enhance the content or were exposed to error. <input type="checkbox"/> Most group members behaved professionally and were featured on camera. <input type="checkbox"/> Some effort is clear, but much more would have been needed to represent deep creativity and thinking. It could have been better. | <ul style="list-style-type: none"> <input type="checkbox"/> Content was directly related to exercise physiology. <input type="checkbox"/> Language used throughout was appropriate, used properly, and effective. No errors. <input type="checkbox"/> Images and graphics related well to and enhanced the content <input type="checkbox"/> All group members behaved professionally on camera. Each member was successfully featured. <input type="checkbox"/> Students were thoughtful in the approach of the subject. It was clear that deep and creative thinking was engaged to produce the product. |
| Presentation (20%) | <ul style="list-style-type: none"> <input type="checkbox"/> Audiovisual media was too distracting to watch. <input type="checkbox"/> The viewer was unable to see presenters/content/visuals or hear related narrative. <input type="checkbox"/> No apparent attempt to edit the video. <input type="checkbox"/> No use of titles and transitions. | <ul style="list-style-type: none"> <input type="checkbox"/> Audiovisual media was exposed to distraction (jumpy images/harsh transitions/loud or soft sounds). <input type="checkbox"/> Images were present, but not clearly visible. <input type="checkbox"/> The area is not well lit and/or clearly visible. <input type="checkbox"/> It was somewhat difficulty to hear and understand the sound. <input type="checkbox"/> Video editing appeared rushed and haphazard, but some editing was present. <input type="checkbox"/> Minimal use of titles and transitions. | <ul style="list-style-type: none"> <input type="checkbox"/> Camera work was stable, smooth, and does not distract from learning. <input type="checkbox"/> Images were easy to see, the subject(s) were well framed. <input type="checkbox"/> The area is well lit and clearly visible <input type="checkbox"/> It was easy to hear and understand the sound <input type="checkbox"/> The video was edited effectively and flowed well. It was clear that time and effort was given to the production. <input type="checkbox"/> Titles and transitions were used effectively. |
| Reflection & Peer Report Card <i>*For Dr. Stone*</i> | Part 3 ____ / 5 = ____% | Reviewer Comments: | |

EXS 412 Final Exam

- 1) Which would be the best option for a client who is in the last stage of the transtheoretical model for physical activity adoption?
 - a) Apply motivation techniques to help them start a program.
 - b) Find a counseling professional that can determine the reason the client is having difficulty with adopting physical activity.
 - c) Give variety to the workout to ensure that the client is continuing to make exercise a habit.
- 2) Which of the following signs or symptoms of CMR disease specifically refers to trouble breathing while lying down?
 - a) Syncope
 - b) Dyspnea
 - c) Orthopnea
 - d) Edema
- 3) LDL cholesterol is the “good” cholesterol
 - a) True
 - b) False
- 4) At minimum, a Health History Questionnaire should assess:
 - a) client's family history of disease.
 - b) client's surgical history.
 - c) client's current use of medications.
 - d) all of the above.
- 5) As MET level increases, so too does exercise/physical activity intensity.
 - a) True
 - b) False
- 6) There is an increased risk of musculoskeletal injury, sudden cardiac death, and acute myocardial infarction during exercise.
 - a) True
 - b) False
- 7) Which of the following is not an example of CMR disease?
 - a) Heart attack
 - b) Type 2 diabetes
 - c) Kidney failure
 - d) COPD
- 8) Which is not considered a common exercise barrier?
 - a) Lack of time
 - b) Environmental challenges
 - c) Fear of injury
 - d) No goal of what to improve
- 9) Is the following statement true or false? “PA is a planned, structured, and repetitive behavior that is performed for the purpose of improving or maintaining physical fitness.”
 - a) True
 - b) False
- 10) An individual who is _____ motivated to participate in PA would be motivated by the love of physical activity.
 - a) Intrinsically
 - b) Extrinsically
 - c) Partially
 - d) Situationally
- 11) Erin is currently thinking about cleaning up her diet by eating more foods that are nutritiously dense. Erin put together a new grocery list for shopping this week. Erin is in what stage of change in the transtheoretical model?
 - a) Precontemplation
 - b) Contemplation
 - c) Preparation
 - d) Action
- 12) A 49-year-old male client with diabetes with the following personal data would be classified as having _____ ACSM CVD risk factors. Waist, 42 in; total cholesterol, 210 mg · dL⁻¹; walks for 30 minutes one to two times per week, nonsmoker, and father died of heart attack at age 58 years.
 - a) 2
 - b) 3
 - c) 4
 - d) 5
- 13) What should an EP-C do if a client reports or displays signs or symptoms suggestive of CMR disease before, during, or after an exercise session?
 - a) Document the incident, stop exercise, and recommend the client to seek medical clearance before they return to physical activity.
 - b) Stop exercise and recommend client be well rested before the next exercise session.
 - c) Continue the exercise program and recommend client speak to the doctor about the issue at their next checkup.
 - d) Document the incident, but continue exercise and recommend client inform you if it happens again.
- 14) John is rather sedentary and has never engaged in much running or exercise, but he has a goal to run a 5K in 12 weeks. He should set some specific short-term goals to help him succeed, what would be a good short-term goal?
 - a) Meeting daily hydration needs
 - b) Running 5 d · wk⁻¹ for 30 minutes per session
 - c) Running a half-marathon after 6 months of training
 - d) Running for 20 minutes without needing a break
- 15) Which of the following is equal to 3.5 mL/kg/min of O₂?
 - a) Resting HR
 - b) $\dot{V}O_{2max}$
 - c) 1 MET
 - d) Resting $\dot{V}O_2$
 - e) C & D

- 16) Of the following methods of prescribing exercise intensity, _____ correlates best with $\% \dot{V}O_2R$.
- $\%HR_{max}$
 - $\% \dot{V}O_{2max}$
 - RPE
 - $\%HRR$
 - None of the above
- 17) You are completing a submaximal exercise test on a 35 year old male. What is the highest value his HR could reach before the test should be terminated
- 110 bpm
 - 136 bpm
 - 156 bpm
 - 184 bpm
- 18) A drop in systolic blood pressure by _____ with an increase in work rate is an indication to stop exercise testing
- ≥ 5 bpm
 - ≥ 10 bpm
 - ≥ 15 bpm
 - ≥ 20 bpm
- 19) More fit individuals should have a _____ post-exercise heart rate compared to less fit individuals following the Queen's College Step Test as compared to
- Lower
 - Higher
 - No difference
- 20) The chronic imbalance between stress (too much) and recovery (too little) can lead to _____.
- Homeostasis
 - Overtraining
 - Supercompensation
- 21) You are working with a 30 year old female. She is 125 lbs, has a resting HR of 55 bpm, max HR of 195, and a VO_{2max} of 45 ml/kg/min. What is her target heart rate if you wanted to program exercise at 65% of her HRR.
- 121
 - 127
 - 146
 - 155
- 22) She is 125 lbs, has a resting HR of 55 bpm, max HR of 195, and a VO_{2max} of 45 ml/kg/min. What is her target VO_2 if you wanted to program exercise at 55% of her $VO_{2reserve}$.
- 24.75
 - 29.25
 - 30.48
 - 40.26
- 23) BMI is best used on an individual basis because it is a reliable tool for distinguishing fat mass from lean mass.
- True
 - False
- 24) Increasing frequency, intensity, and time at the same time is an appropriate way to program exercise.
- True
 - False
- 25) A 35 year old, 80 kg woman is running at a speed of 9 mph on a level surface. What is her VO_2 ?
- 35.4
 - 45.6
 - 51.7
 - 61.8
- 26) A 75kg individual is cycling at a resistance of 1.5kgs and pedaling at 60 rpm. What is their caloric expenditure?
- 5 kcal/min
 - 7.5 kcal/min
 - 10 kcal/min
 - 12.5 kcal/min
- 27) When selecting a starting exercise intensity, unfit individuals should be started at a higher **relative** exercise intensity than fit individuals.
- True
 - False
- 28) Muscular hypertrophy due increases in actin and myosin is referred to as _____ hypertrophy, while fluid retention and the associated increase in nutrients like calcium is associated with _____ hypertrophy.
- sarcoplasmic, myofibrillar
 - myofibrillar, sarcoplasmic
 - myofibrillar. hyperplasia
 - hyperplasia, myofibrillar
- 29) Which of the following is the recommended training frequency for a client with an intermediate resistance training status using a total body training routine?
- 1
 - 2
 - 3
 - 4
- 30) Which of the following is the recommended training frequency for a client with an intermediate resistance training status using a split training routine?
- 1
 - 2
 - 3
 - 4

- 32) Within-week variation can be most easily accomplished by which of the following?
- Undulating periodization
 - Linear periodization
 - Overload
- 33) A general recommendation is for advanced individuals to resistance train between ____ days and ____ days per week to allow for an increase in training stimulus.
- 1; 4
 - 2; 4
 - 3; 6
 - 3; 4
- 34) Which of the following is *not* recommended for rotator cuff exercises?
- shoulder below 90 degrees elevation
 - high loads
 - high repetitions
 - arm forward of the body
- 35) Which of the following apply(ies) to the term macrotrauma?
- sudden and obvious episode of tissue overload and subsequent damage
 - results from the accumulation of tissue damage across time
 - often referred to as an overuse injury
 - not always caused by repeated physical activity
- I only
 - I and III only
 - II and IV only
 - II, III, and IV only
- 36) Which of the following apply(ies) to the term microtrauma?
- sudden and obvious episode of tissue overload and subsequent damage
 - results from the accumulation of tissue damage across time
 - often referred to as an overuse injury
 - not always caused by repeated physical activity
- I only
 - I and III only
 - II and IV only
 - II, III, and IV only
- 37) For an *advanced* level client, with the goal of enhancing muscular endurance, which of the following would be an appropriate resistance exercise program design for the client's core exercises only?
- 10-15RM, 1-3 sets
 - ≤ 6 RM, > 3 sets
 - 8-12RM, 1-3 sets
 - 15-30+RM, > 3 sets
- 38) An individual completed 3 sets of 5 at 80% 1RM on bench press on Monday, Wednesday, and Friday. Assuming their 1RM is 200 pounds, what is their weekly volume load.
- 15 reps
 - 45 reps
 - 2400 lbs
 - 7200 lbs
- 39) Which of the following is *incorrect* regarding the use of rate of perceived exertion (RPE) in resistance exercise?
- The OMNI-Resistance Exercise Scale consists of a 1-10 scale with visual aids.
 - RPE can help personal trainers increase or decrease the exercise load based on client feedback.
 - RPE allows the personal trainer to monitor fatigue from session to session and adjust training loads accordingly.
 - It should be used exclusively to gauge intensity in novice clients.
- 40) Which of the following is the best example of a pair of exercises that, when performed sequentially with little to no rest between them, constitute a *compound set*?
- dumbbell biceps curl and triceps pushdown
 - lat pulldown and lateral raise
 - upright row and shoulder press
 - incline bench press and shoulder press
- 41) Which of the following is the best example of a pair of exercises that, when performed sequentially with little to no rest between them, constitute a *super set*?
- dumbbell biceps curl and triceps pushdown
 - lat pulldown and lateral raise
 - upright row and shoulder press
 - incline bench press and shoulder press
- 42) Generally speaking, rest periods between sets of the same exercise should be lower for hypertrophy than for power.
- True
 - False
- 43) Which of the following levels of resistance training status would require the *least* variation to produce results from a client's training program?
- novice
 - intermediate
 - advanced
 - highly advanced
- 44) Which of the following exercises is contraindicated for a client following anterior cruciate ligament reconstruction?
- squat
 - lunge
 - end range of leg extension
 - end range of leg curl

An individual is running on a treadmill at 6 MPH (steady state). After 6 months of chronic aerobic training, how will the following variables change given that the person is still running at 6 MPH.

- a) Increase
- b) Decrease
- c) Stay the Same

- 44. Heart Rate
- 45. Stroke Volume
- 46. VO_2
- 47. Cardiac Output

At maximal exercise intensity (think right at the end of a VO_2max test), explain how these variables change as a result of training.

- a) Increase
- b) Decrease
- c) Stay the Same

- 48. Heart Rate
- 49. Stroke Volume
- 50. VO_2

ACSM Metabolic Equations:

Walking Equation: $\text{VO}_2 = (0.1 * \text{Speed}) + (1.8 * \text{Speed} * \text{Grade}) + 3.5$

Running Equation: $\text{VO}_2 = (0.2 * \text{Speed}) + (0.9 * \text{Speed} * \text{Grade}) + 3.5$

Cycling Equation: $\text{VO}_2 = \left[\frac{(1.8 * \text{Work Rate})}{\text{Mass}} \right] + 7$

Stepping Equation: $\text{VO}_2 = (0.2 * \text{Rate}) + 1.33(1.8 * \text{Step Height} * \text{Rate}) + 3.5$

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 |
| <ul style="list-style-type: none"> • 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 2 nd and 3 rd min (15 seconds) | 0 | 1 | 2 | 3 |
| <ul style="list-style-type: none"> • Tell Evaluator: 1 ____ / ____, 2 ____ / ____, 3 ____ / ____ <li style="padding-left: 40px;">4 ____ / ____, 5 ____ / ____, 6 ____ / ____ | 0 | 1 | 2 | 3 |
| Compare minute 2 HR to minute 3 HR during each stage. | 0 | 1 | 2 | 3 |
| <ul style="list-style-type: none"> • 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 |
| <ul style="list-style-type: none"> • < 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 |
| <ul style="list-style-type: none"> • 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 | | |
| <u>Inform client of workload changes prior to increase (per stage)</u> | 0 | 1 | 2 | |

Quality (4 points) 1 2 3 4
 Comments: _____

Interpretation (5 points): Points _____

Comments: _____

Queens College 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.

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.

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.

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?

| 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 | |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • 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 | |
| <ul style="list-style-type: none"> • 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 | | |
| <ul style="list-style-type: none"> • tricep (vertical, mid-humerus) _____ • subscapular (diagonal, below inferior angle) _____ • pectoral (men 1/2 & women 1/3 between axilla & nipple) _____ • midaxillary (vertical, midaxillary line, level of xiphoid) _____ • suprailiac (diagonal, at anterior axillary line) _____ • abdominal (vertical, 1" to right of navel) _____ • thigh (vertical, mid-femur) _____ | 0 | 1 | 2 | |
| Measure each skinfold site at least one more time | 0 | 1 | 2 | |
| <ul style="list-style-type: none"> • 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 | |
|---|---|---|---|--|

Quality (5 points) 1 2 3 4 5

Comments: _____

Interpretation (8 points): Points _____

Comments: _____

YMCA Bench Press Grading Checklist

Observe as the student completes this testing assessment. If the student successfully completes each check, award the points given in parentheses. This testing assessment is worth 25 points.

- ____(3) 1. Record pretest measures (resting HR, BP, height, weight) on testing data form and describe the test to the patient
- ____(3) 2. Use a 35 lb (15.9 kg) straight barbell for women or an 80 lb (36.3 kg) straight barbell for men. A spotter should be present during the test.
- ____(3) 3. Set a metronome to 60 beats · min⁻¹.
- ____(3) 4. The test begins with the bar in the down position, touching the chest, with the elbows flexed and hands shoulder-width apart.
- ____(3) 5. A repetition is counted when the elbows are fully extended. After each extension, the participant should lower the bar to touch the chest.
- ____(3) 6. Up and down movements should be in time to the 60 beats · min⁻¹ rhythm, which should be 30 lifts · min⁻¹.
- ____(3) 7. Count the total number of repetitions completed in good form and record the value.
- ____(4) 8. Compare the number of repetitions with the normative values (see tables 9.2-9.3).

____ / **25 total points**

Notes and Comments:

Maximal Treadmill Grading Checklist

Observe as the student completes this testing assessment. If the student successfully completes each check, award the points given in parentheses. This testing assessment is worth 25 points.

- ____(1) 1. Record pretest measures (resting HR, BP, height, weight) on testing data form.
- ____(1) 2. Review the procedure with the participant (e.g., graded exercise test; monitoring vitals at each stage).
- ____(1) 3. Explain the participant's responsibilities during the test (e.g., report any adverse symptoms or fatigue).
- ____(1) 4. Begin the test with a 2 to 3 min warm-up on the treadmill (select a speed and grade lower than those used in the first stage).
- ____(1) 5. Set the treadmill speed and grade to the first stage of the protocol.
- ____(1) 6. Start the timer.
- ____(1) 7. Instruct the client that you are beginning the test.
- ____(1) 8. Observe the participant for signs or symptoms that require terminating the test.
- ____(2) 9. At 2:30 in each stage, measure and record HR.
- ____(2) 10. At 2:50 in each stage, ask for and record the participant's RPE (refer to chapter 7 of the text and table 11.2).
- ____(2) 11. At 2:55 in each stage, ask the participant, "How are you doing?" and if they are okay with increasing the stage
- ____(1) 12. Cool down at a speed and grade lower than those used for the first stage of the test until HR and BP are near resting values.
- ____(1) 13. Calculate maximal aerobic power
- ____(1) 14. Compare test results with normative values (see table 7.2).
- ____(1) 15. Determine if the test was a max test based upon secondary criteria
- ____(1) 16. Talk with the participant and check out any problems, report results, and make recommendations.

____ / 19 total points

Astrand-Rhyming Cycle Ergometer Test

Name _____

Evaluator _____ Score (50 possible) _____

Preparation (15 points)

| | | | | |
|---|---|---|---|---|
| Explain purpose of test to client | 0 | 1 | 2 | 3 |
| <ul style="list-style-type: none"> • Submax bike test that predicts aerobic status • Data recorded, multiple stages, pace, resistance | | | | |
| 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)

| | | | | |
|--|---|---|---|---|
| Have subject warm-up with no resistance for 2-3 min | 0 | 1 | 2 | 3 |
| Set Metronome to 100 BPM and explain cadence to client | 0 | 1 | 2 | 3 |
| After warm-up, set resistance to predetermined value and set timer | 0 | 1 | 2 | 3 |
| Collect HR, resistance and workload data each minute | 0 | 1 | 2 | 3 |
| After 2 minutes HR should be between 125-170 | 0 | 1 | 2 | 3 |
| -If not then make adjustments and restart timer | | | | |
| Determine if steady state has been reached | 0 | 1 | 2 | 3 |
| - If so then end test, if not then continue test until it has | | | | |

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 | | |
| <u>Inform client of workload changes prior to increase (per stage)</u> | 0 | 1 | 2 | |

| | | | | |
|--|---|---|---|---|
| <u>Calculate absolute VO_2 using Nomogram and adjust for age (4 points)</u> | 1 | 2 | 3 | 4 |
|--|---|---|---|---|

Comments:

Interpretation and evaluate findings (5 points): Points _____

Comments:

1/ 5 RM Testing Lab

Name: _____

Score: _____ / 50

Evaluator: _____

Preparation:

Explain Purpose of test to client (5 Total pt.)

- ___ (3) Assesses for muscular Strength
- ___ (1) List some examples of exercises you can do 1/5RM testing with
- ___ (1) Demonstrate proper technique for the exercise (i.e., bench press)

General/Specific Warm Up (15 pt.):

- ___ (5) Have participant partake in proper general warm up procedures
- ___ (10) Have client partake in proper specific warm up procedures

Proper Spotting (10):

- ___ (10) Demonstrates proper spotting techniques

Working up to Repetition Maximum (10 pt.):

- ___ (5) Proper jumps from attempts
- ___ (5) Reaching 5RM within 4-6 attempts

Appropriate use/estimate of repetition maximum from the chart (10 pt.)

- ___ (10) Correct 1RM prediction