

AC 2023 - 2024 Assessment

Program: Health and Exercise Science (377)

Division: Gallaspy College of Education and Human Development

Department: Health and Human Performance

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Northwestern State University of Louisiana's Mission. Northwestern State University is a responsive, student-oriented institution committed to acquiring, creating, and disseminating knowledge through innovative teaching, research, and service. With its certificate, undergraduate, and graduate programs, Northwestern State University prepares its increasingly diverse student population to contribute to an inclusive global community with a steadfast dedication to improving our region, state, and nation.

College Mission. The Gallaspy Family College of Education and Human Development is committed to working collaboratively to acquire, create, and disseminate knowledge to Northwestern students through transformational, high-impact experiential learning practices, research, and service. Through the School of Education and Departments of Health and Human Performance, Military Science, Psychology, and Social Work, the College produces knowledgeable, inspired, and innovative graduates ready for lifelong learning who contribute to the communities in which they reside and professions they serve. Additionally, the GCEHD is dedicated to the communities served by the Marie Shaw Dunn Child Development Center, NSU Elementary Laboratory School, NSU Middle Laboratory School, and the NSU Child and Family Network to assist children and their families related to learning and development.

Department Mission. The Department of Health & Human Performance's academic programs provide a foundation for our students to leave Northwestern State University as innovative, contemporary leaders prepared for a variety of career opportunities in health, kinesiology, and sport. Our faculty provide a collaborative, supportive learning environment in which students discover, explore, and practice the knowledge, movement, and values that will help ensure a healthy, productive lifestyle and successful career.

Health and Exercise Science Program Mission Statement: Through the completion of program requirements for Health and Exercise Science, students will gain knowledge and skills for employment opportunities within the health, kinesiology, and exercise science industries. Students will acquire, create, and disseminate knowledge through transformational, high-impact experiential learning practices, critical thinking, research, reflective analysis, communication, and evaluation. The Bachelor of Science Degree in Health and Exercise Science challenges students to develop plausible solutions to the diagnostic and prescriptive response to exercise needs in health scenarios. Through these learning experiences, Health and Exercise Science students are prepared for life and career success in this every growing field.

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Methodology: The assessment process for the Health and Exercise Science program is as follows:

- (1) Data from assessment tools are collected and returned to the Department Head.
- (2) The Department Head will analyze the data to determine whether students have met measurable outcomes.
- (3) Results from the assessment will be discussed with the program faculty.
- (4) Individual meetings will be held with faculty teaching major undergraduate courses if required (show cause).
- (5) The Department Head, in consultation with the HHP Advisory Committee, will propose changes to measurable outcomes, assessment tools for the next assessment period and, where needed, curricula and program changes.

Student Learning Outcomes:

SLO 1. The student will demonstrate a basic knowledge of exercise science.

Course Map: Tied to course syllabus objectives.

HP 2000: Introduction to Exercise Science

HP 2270: Physical Fitness HED 3000: Community Health Promotion

HP 3550: Applied Kinesiology

HP 3560: Exercise Physiology

Measure 1.1. (Direct – Knowledge)

On an annual basis, students enrolled in HP 2000, HP 2270, HED 3000, HP 3550 and HP 3560 are administered course exams and activities designed to evaluate the student knowledge and understanding of the foundational concepts, theories, strategies, and challenges of the health and exercise science industry. 75% of enrolled students will be able to describe a basic knowledge of the health and fitness industry standards by scoring 70% or higher on the exams.

Finding. Target was met.

Analysis. In AC 2023-2024, 91.76% of students who attempted their final exams met or exceeded the target score of at least 70% on their final exams. This represents a similar performance to AC 2022-2023, in which 91.1% of students in the Health and Exercise Science program met the target score. In all classes listed, students successfully demonstrate critical thinking and problem-solving skills through a variety of case studies, as well as scenario-driven exercises (labs), in which they were required to analyze and

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develop a response to a health and exercise related situation. In these responses, students demonstrated proper response and actionable recommendations based on the information presented.

In AC 2022-2023, several goals for AC 2023-2024 involved enhancing laboratory, critical thinking, and application-based activities in courses focused on health and exercise science. To accomplish this, in AC 2023-2024, the department gained two new faculty members with doctoral degrees focusing on exercise physiology. These new faculty members have strengthened our exercise science courses, especially HP 3550: Applied Kinesiology, HP 3560: Exercise Physiology, and HP 4170: Testing, Evaluation, and Prescription of Exercise. Additionally, the department has enhanced the Exercise Physiology Laboratory space in the Health and Human Performance Building, providing students with new fitness and wellness assessment equipment and an updated and reorganized space that is regularly utilized in class.

Decision. In AC 2023-2024, the target was met.

Based on information gathered from analysis of the AC 2023-2024 data, faculty will implement the following changes in AC 2024-2025 to drive the cycle of improvement. In AC 2024-2025, faculty will teach each course in lab-like conditions with improved, updated equipment and real-world activities. Students will evaluate case studies and develop protocols for activity-based prescription treatments to drive the cycle of improvement.

Measure 1.2. (Direct – Skill / Ability)

Students will demonstrate their critical thinking and problem-solving skills through a variety of case studies, as well as scenario-driven exercises in which they are required to analyze and develop a response to a health and exercise related situation. In these responses, they must demonstrate proper response and actionable recommendations based on the information presented. 75% of the students will score 70% or higher on these exercises.

Finding. Target was met.

Analysis. To determine student performance on assignments focused on case study, scenario-driven, and/or critical thinking exercises, data were collected from course sections that utilized these types of assignments. In AC 2023-2024, two sections of HP 2000, two sections of HP 2270, one section of HP 3560, and three sections of HED 3000 utilized assignments of the nature required for Measure 1.2. Of note, HP 2000, HP 3560, and HED 3000 all utilized multiple case study, scenario-driven, and/or critical thinking assignments and activities throughout the semester. Therefore, for Measure 1.2, cumulative assignment scores were utilized when appropriate to account for each student's overall semester performance.

A total of 235 students in these course sections were given the opportunity to complete these types of assignments, and 82.13% ($n = 193$) completed these assignments with a

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score of 70% or higher. This exceeds the minimum threshold set for Measure 1.2 (Direct – Skill/Ability) of 75% of students. Data for this particular measure was not collected in AC 2022-2023, particularly due to changes in faculty at that time. However, in AC 2023-2024, with the addition of two new Health and Exercise Science faculty members, students have additional opportunities to access diverse and creative hands-on laboratory experiences. Because our program prepares students for pre-professional programs (e.g., physical therapy school, occupational therapy school, athletic training programs), critical thinking and scenario-driven assignments and activities are particularly important and practical.

Decision. In AC 2023-2024, the target was met.

Moving forward in AC 2024-2025, the Health and Exercise Science program faculty will collaborate closely to ensure that all laboratory and practical experiences offered to our students are complementary, diverse, practical, and provide realistic and immediate feedback, particularly when it comes to health and fitness assessment. Syllabi will be reviewed and aligned with national standards and workforce needs.

SLO 2. The student will demonstrate the ability to develop an exercise prescription plan, which encompasses the initial prescription, maintenance for such prescription and subsequent re-evaluation strategies for apparently healthy populations.

Course Map: Tied to course syllabus below.

HP 4170: Testing, Evaluation, and Prescription of Exercise in Health and Human Performance

Measure: 2.1. (Direct – Skill / Ability)

Students will prepare a prescription plan for a specified health need/condition. In these responses, the student will demonstrate proper progression toward the expected outcome and actionable recommendations based on the scenario(s). 75% of the students will score 80% or higher on these exercises.

Finding. Target was met.

Analysis. Data were collected from the two sections of HP 4170 taught during AC 2023-2024. Of the students enrolled in this course ($n = 34$), 88.24% of them ($n = 30$) received a grade of at least 80% on their assignments requiring them to write customized exercise prescription plans. This exceeds the preset threshold of 75% of students scoring 80% or higher on assignments of this nature, and also marks an improvement in performance from AC 2022-2023 (83.3%). HP 4170 is primarily a laboratory-based course and incorporates many opportunities for students to conduct fitness testing, explore various contraindications, warning signs and modifications, and create exercise prescription recommendations based on a client-specific needs. During AC 2023-2024, the combination of new exercise

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physiology faculty members and many improvements to the Exercise Physiology Laboratory space have led to the improvement in the student experience and their performance on these assignments.

Decision. In AC 2023-2024, the target was met.

Based on analysis of data from AC 2023-2024, the following changes will be made in AC 2024-2025 to continue the cycle of improvement: exercise testing and prescription foundations will be introduced earlier in the curriculum in relevant courses such as HP 2630, HP 3550, and HP 3560, which will enable students in HP 4170 to focus on more advanced equipment, settings, and applications of their knowledge to real-world scenarios.

Measure: 2.2. (Direct -- Knowledge)

Students will be able to understand and identify the correct prescriptive activity and the duration of exercise needed to satisfy the outcome required by the respective scenario(s). This will be determined with 75% of the students earning a score of at least 80% on semester course exams.

Finding: Target was not met.

Analysis: In AC 2023-2024, two sections of HP 4170 were taught: one in Fall 2023 ($n = 18$) and one in Spring 2024 ($n = 16$). All students in the Spring 2024 section took the final exam, and 43.75% of them (7 of 16) received a grade of 80% or higher on their final exam. In the Fall 2023 section, the final exam was considered to be “optional” for students who had a letter grade of “A” prior to final exam week. As a result, only 6 of the 18 total students in the course attempted the final exam, and of them, 4 students (66.67% of students who attempted the exam) received a score of 80% or higher. It should be noted that students with a letter grade of “A” in this course most likely did not complete the exam, which may have been as many as 12 students. Therefore, the impact of high-achieving students in this category cannot be observed.

Taken together, 11 students out of 22 (50%) who attempted a final exam in HP 4170 received a score of at least 80%. This number falls below the desired 75% of students specified in Measure 2.2. The AC 2022-2023 Program Assessment report for Health and Exercise Science indicated for Measure 2.2 that 100% of students in HP 4170 ($n = 26$) received a score of 70% or higher on their final exam; however, because this year’s report utilizes the threshold of 80% or higher on the final exam, student performance in AC 2022-2023 and AC 2023-2024 cannot be compared. Future reports should prioritize the standardization of threshold scores for use in program assessments other than exams so that accurate and meaningful conclusions regarding program progress can be observed.

Decision. In AC 2023-2024, the target was not met.

Students’ ability to prescribe exercise and modifications with accuracy is critical.

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Therefore, based on analysis of data from AC 2023-2024, the following changes will be made in AC 2024-2025 to continue the cycle of improvement. In AC 2024-2025, students enrolled in HP 4170 will experience enhanced laboratory experiences with workforce applicable skills. The Exercise Physiology Laboratory will be updated with current technology and experiences for students. Additionally, Health and Exercise Science faculty will work together to create a curriculum plan for ensuring these critical concepts are introduced and reinforced in the relevant prerequisite coursework, including HP 2630, HP 3550, and HP 3560, among others.

SLO 3. The student will be able to demonstrate the ability to administer test protocols for evaluating the components of physical fitness.

Course Map: Tied to course syllabus below.

HP 3561: Exercise Physiology Laboratory

HP 4170: Testing, Evaluation, and Prescription of Exercise in Health and Human Performance

HED 3000 – Community Health Promotion

Measure 3.1. (Direct – Skill / Ability)

The student will earn a performance evaluation score of 70% or higher in the administration of testing protocols for various physical fitness components through laboratory experiences. This will be determined with 75% of the students earning a score at least 80% on semester course exams.

Finding: Target not met (though curriculum changes impacted analysis)

Analysis: In AC 2023-2024, of the courses in the course map above, only HP 4170 and HED 3000 were taught. HP 3561: Exercise Physiology Laboratory is no longer taught as an independent course; rather, it is now incorporated into HP 3560: Exercise Physiology. In HP 3560, students regularly attend laboratory activities and complete practical, scenario-based assignments. Therefore, data from HP 3560 was used in place of HP 3561 to provide more accurate data for Measure 3.1. Additionally, in AC 2023-2024, HED 3000 did not incorporate exercise testing protocols, since this course focuses on community health promotion and public health topics. Therefore, data from HED 3000 was not included. Future program assessments should update the courses indicated for Measure 3.1.

Therefore, for the present assessment (AC 2023-2024), to determine student performance on the administration of testing protocols, data were collected regarding final exam performance in HP 4170 (as currently specified in Measure 3.1), as well as laboratory activity performance in HP 3560 to expand upon those findings.

In alignment with Measure 3.1, data solely from HP 4170 indicates that 11 of 22

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students (50%) during AC 2023-2024 scored 80% or higher on their final exams. It is notable, as mentioned above in Measure 2.2, that one of the two sections of HP 4170 offered an “optional” final for students with a letter grade of “A” prior to final exam week, which removes the impact of high-achieving students when conducting the analysis for Measure 3.1. That section of HP 4170 had 18 total students, and only 6 took the final exam, suggesting that 12 students had a grade of “A” prior to their final exam, and that overall performance in this class was much higher than the data would initially suggest. When we also include data from HP 3560, we can see that 48 of 51 students (94.11%) received a score of at least 70% on their final exams. Additionally, data were collected from two of the three HP 3560 sections indicating that 100% of students ($n = 41$) in those sections received a grade of 70% or higher on their laboratory-based assignments that focused on fitness assessments and interpretation of results. Therefore, while the target score for Measure 3.1 was not met by students in HP 4170 who attempted their final exam, if additional courses were incorporated that are appropriate for performance evaluation in Measure 3.1, it is very likely that overall performance would have met or exceeded the minimum target threshold.

Decision. In AC 2023-2024, the target was not met.

Based on analysis of data from AC 2023-2024, the following changes will be made in AC 2024-2025 to continue the cycle of improvement In AC 2024-2025. It is recommended that faculty develop course materials and lesson plans focusing on the administration of fitness assessments and also the appropriate interpretation of results, while avoiding final exam grades as measures. While scores on laboratory exercises and final exams in HP 3560 are adequate, students seem to struggle with the more complex content taught in HP 4170. Therefore, incorporating fitness testing protocols, contraindications, modifications, and applications into other prerequisite coursework like HP 2530 and HP 3550 will aid students when they approach their senior-level coursework.

Measure 3.2. (Direct – Knowledge)

Students will correctly select the appropriate test protocol to be used in various physical fitness and exercise settings (corporate, recreational, clinical, and/or commercial). This will be determined with 75% of the students earning a score of at least 70% on semester course exams.

Finding: Target was met.

Analysis: During AC 2023-2024, 146 of 155 students (94.19%) enrolled in HED 3000 and HP 3560 achieved final exam scores of 70% or higher. In HP 4170, 11 of 22 students (50%) scored 80% or higher on their final exams, though data were not collected on the threshold of 70% scores. Regardless, enough students have achieved the grade needed to meet the target for Measure 3.2.

In HED 3000, HP 3560, and HP 4170, students learn about the various settings in which

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fitness and wellness testing are utilized (corporate, recreational, clinical, and commercial settings), and which methods are most appropriate and practical to meet the goals of the professionals and clients in those settings. Students in these courses were able to adequately identify the appropriate testing protocols that are used in these various settings, knowledge that is directly applicable to our pre-professional students (pre-physical therapy, pre-occupational therapy, pre-athletic training), as well as students interested in other allied healthcare, fitness, and sports settings. Knowledge derived from these courses will enable Health and Exercise Science students to bring their expertise to multiple work settings.

Decision. In AC 2023-2024, the target was met.

Based on analysis of data from AC 2023-2024, the following changes will be made in AC 2024-2025 to continue the cycle of improvement. Faculty in the Health and Exercise Science program will focus on presenting fitness assessment opportunities to students, especially in the second and third years of the program, so that the hands-on laboratory experience in upper-division coursework are more meaningful and can focus on more complex ideas and application to the real-world settings and scenarios they will be working in.

Comprehensive Summary of Key Evidence of Improvement Based on Analysis of Results.

Program faculty made several decisions after examining results of data analysis from AC 2022-2023 which resulted in improved student learning and program improvement in AC 2023-2024.

- Faculty engaged Health and Exercise Science students with unique instructor-generated case scenarios, the application of skills, abilities, and theories to course curriculums. This curriculum is a face-to-face program, with strong emphasis on hands-on learning.
- Faculty provided students with an enhanced experience in the updated Exercise Physiology Laboratory space, enabling students to utilize new and updated equipment used for fitness and wellness testing.
- Faculty updated the Health and Exercise Science curriculum to be more in-line with industry standards and professional school programs, integrating more coaching and fitness-based coursework to prepare students to be successful in internships and a variety of workplaces.
- The department hired two Assistant Professors with PhDs in Exercise Physiology, enhancing the experience of students in HP 3550, HP 3560, and HP 4170 and increasing academic rigor in the Health and Exercise Science program.

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Plan of Action for Moving Forward:

Program faculty examined the evidence and results of data analysis from AC 2023-2024 and will take steps to continue to improve student learning in AC 2024-2025:

- The faculty will work together to restructure the student learning outcomes to align with the updated Health and Exercise Science curriculum and national standards as well as determine precise measures to determine student achievement.
- The faculty will teach HP 4170 as lab-like conditions, as students evaluated case studies and write protocols for activity-based prescription treatments to drive the cycle of improvement.
- Faculty will create syllabi for all Health and Exercise Science courses to incorporate the introduction of upper-level exercise science content, especially those related to fitness assessment and components of fitness and health, in lower-level courses to provide a strong foundation for HP 3560 and HP 4170.
- Faculty will provide course materials and applicable activities that promote students to spend more hours improving their ability to administer test protocols for evaluating the components of physical fitness.