APK Undergraduate Academic Assessment Plan 2012-2013

Applied Physiology and Kinesiology

College of Health and Human Performance

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Applied Physiology and Kinesiology College of Health & Human Performance Undergraduate Academic Assessment Plan

Mission Statement

The undergraduate Applied Physiology and Kinesiology major at the University of Florida offers specializations in exercise physiology and fitness/wellness. The student will gain an extensive understanding of the anatomical, physiological and psychological consequences to human movement and will explore the relationship between physical activity, health and disease. Through academic and internship preparation, students earning a Bachelor of Science in Applied Physiology and Kinesiology (BS-APK) are prepared to enter graduate programs in exercise physiology, biobehavioral science (e.g., biomechanics, sport psychology, motor control), and professional schools (e.g., medical, physical therapy, occupational therapy, etc.) and/or enter the workforce to serve in multi-disciplinary areas within the fitness, health, and wellness community.

The mission of the Applied Physiology and Kinesiology undergraduate degree supports the missions of both the College of Health and Human Performance and the University of Florida. APK faculty and students engage in courses, research and service-driven opportunities which promote heath, health education, and overall wellness to individuals as well as local, regional, national, and even global communities.

Student Learning Outcomes (SLOs)

https://catalog.ufl.edu/ugrad/current/health/alc/applied-physiology-and-kinesiology.aspx

Existing SLOs in the 2012-13 undergraduate catalog:

1. Integrate and apply principles and methods of math, social studies and arts and humanities to the applied physiology and kinesiology environment.

2. Identify the nomenclature, structure and location of the components of the human anatomy.

3. Explain the mechanisms and processes that human cells, tissues, organs and systems use to sustain homeostasis.

4. Explain the effects of exercise on psychological well-being as well as the perspectives used to enhance exercise adherence.

5. Explain both the acute and the chronic physiological adaptations to physical activity.

6. Select and apply the appropriate scientific principles when assessing and prescribing anaerobic and aerobic exercise.

7. Solve applied physiology and kinesiology problems using the scientific method and critical thinking skills.

8. Effectively collect, analyze and interpret quantitative data.

9. Effectively communicate with applied physiology and kinesiology cohorts and professionals through written text, oral messages and multimedia presentations.

Revised SLOs for the 2013-14 undergraduate catalog:

Content

- 1. Integrate principles and methods of math, social sciences, and arts and humanities to applied physiology and kinesiology, wellness, and/or fitness environments.
- 2. Identify and relate the nomenclature, structures, and locations of components of human anatomy to health, disease, and physical activity.
- 3. Identify, examine, and explain physiological mechanisms of homeostasis at various levels of an organism (i.e., cells, tissues, organs, systems).
- 4. Investigate and explain the effects of physical activity on psychological health as well as the perspectives used to enhance adherence to healthier lifestyles.
- 5. Identify and explain the acute and chronic anatomical and physiological adaptations to exercise, training, and physical activity.

Critical Thinking

- 6. Select and utilize the appropriate scientific principles when assessing the health and fitness of an individual and prescribing physical activity based on those assessments.
- 7. Solve applied physiology and kinesiology problems from personal, scholarly, and professional perspectives using fundamental concepts of health and exercise, scientific inquiry, and analytical, critical, and creative thinking.
- 8. Collect, compare, and interpret qualitative or quantitative data in an applied physiology and kinesiology context.

Communication

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9. Effectively employ written, oral, visual, and electronic communication techniques to foster inquiry, collaboration, and engagement among applied physiology and kinesiology peers and professionals as well as with patients, clients, and/or subjects.

New/Revised SLOs, 2013-14*	Link to 2011-12*, 2012-13* SLOs
Content	
1. Integrate principles and methods of math,	1. Integrate and apply principles and methods of
social sciences, and arts and humanities to	math, social studies and arts and humanities to the
applied physiology and kinesiology, wellness,	applied physiology and kinesiology environment.
and/or fitness environments.	
2. Identify and relate the nomenclature,	2. Identify the nomenclature, structure and
structures, and locations of components of	location of the components of the human
human anatomy to health, disease, and physical	anatomy.
activity.	
3. Identify, examine, and explain physiological	3. Explain the mechanisms and processes that
mechanisms of homeostasis at various levels of	human cells, tissues, organs and systems use to
an organism (i.e., cells, tissues, organs, systems).	sustain homeostasis.
4. Investigate and explain the effects of physical	4. Explain the effects of exercise on psychological
activity on psychological health as well as the	well-being as well as the perspectives used to
perspectives used to enhance adherence to	enhance exercise adherence.
healthier lifestyles.	
5. Identify and explain the acute and chronic	5. Explain both the acute and the chronic
anatomical and physiological adaptations to	physiological adaptations to physical activity.
exercise, training, and physical activity.	
Critical Thinking	
6. Select and utilize the appropriate scientific	6. Select and apply the appropriate scientific
principles when assessing the health and fitness	principles when assessing and prescribing
of an individual and prescribing physical activity	anaerobic and aerobic exercise.
based on those assessments.	
7. Solve applied physiology and kinesiology	7. Solve applied physiology and kinesiology
problems from personal, scholarly, and	problems using the scientific method and critical
professional perspectives using fundamental	thinking skills.
concepts of health and exercise, scientific inquiry,	
and analytical, critical, and creative thinking.	
8. Collect, compare, and interpret qualitative or	8. Effectively collect, analyze and interpret
quantitative data in an applied physiology and	quantitative data.
kinesiology context.	
Communication	
9. Effectively employ written, oral, visual, and	9. Effectively communicate with applied
electronic communication techniques to foster	physiology and kinesiology cohorts and
inquiry, collaboration, and engagement among	professionals through written text, oral messages
applied physiology and kinesiology peers and	and multimedia presentations.
professionals as well as with patients, clients,	
and/or subjects.	
*undergraduate catalog dates	

*undergraduate catalog dates

Curriculum Map

Curriculum Map for: Applied Physiology & Kinesiology

College: Health & Human Performance

The assessment tools used in the Curriculum Map to capture completion of the SLOs include 1) Laboratory Practical Examination (APK 4125c) and 2) Supervisor Evaluation of Internship Form (APK 4940c).

Key: Introduced **R**einforced **A**ssessed APK APK 3200 APK 3220C APK 3400 APK 3405 APK APK 4125C APK Courses 3110C 4940C SLOs 4050 **Content Knowledge** R.A R.A #1 (Laboratory (Internship Ι R R R R Practical Exam) Evaluation) R.A R,A #2 Ι R R (Laboratory (Internship Practical Exam) Evaluation) R,A R.A #3 R (Laboratory (Internship Ι Practical Exam) Evaluation) R,A R,A #4 R R (Laboratory Ι (Internship Practical Exam) Evaluation) R,A R,A #5 R (Laboratory (Internship Ι R R Practical Exam) Evaluation) **Critical Thinking** R.A R,A (Laboratory #6 Ι R R (Internship Practical Exam) Evaluation) R,A R,A #7 (Laboratory (Internship Ι R R R R R Practical Exam) Evaluation)

#8	Ι		R			R	R,A (Laboratory Practical Exam)	R,A (Internship Evaluation)
Communication								
#9	I	R	R	R	R	R	R,A (Laboratory Practical Exam)	R,A (Internship Evaluation)

Assessment Cycle

As part of the capstone internship experience, data collection regarding SLO assessment will occur by the Internship Coordinator/APK Academic Advisor. After review and compilation, data analysis and interpretation will occur by members of the APK undergraduate curriculum committee (UCC). Using the capstone evaluation of the SLO's and student experience (currently under development and revision), the committee will assess benchmark measures and make recommendations in the form of an enhancement plan to faculty for implementation. Beginning immediately, the APK UCC will develop and implement a new data capture assessment tool to assess the benchmarks for the SLO assessment and capstone internship experience. Data review will occur annually at the end of summer term (capturing the data from the three previous internship semesters – fall, spring, summer). Members of the APK UCC will analyze the data and make appropriate recommendations to faculty during the fall semester. It is expected that implementation of recommended revisions will occur on or before the start of the spring semester.

Assessment Cycle Chart

Assessment Cycle for: Applied Physiology & Kinesiology College: Health & Human Performance

Data Collection: Review, Analysis and Interpretation: Recommended Revisions: Implementation of Revisions: Annually – Fall, Spring, Summer Semesters End of Summer Semester (August 15) Fall Semester Beginning of Spring Semester (January)

Year	10-11	11-12	12-13 ¹	13-14	14-15	15-16
SLOs						
Content Knowledge						
#1						
#2						
#3						
#4						
#5						
Critical Thinking						
#6						
#7						
#8						
Communication						
#9						

¹ Internship evaluations occur annually. Beginning in the spring 2013 semester, data collection will also include the Laboratory Practical Examination administered to all APK students in APK 4125c (Fitness Assessment & Exercise Prescription). These data will be collected and analyzed by the Chair of the APK UCC and used to make recommendations to the faculty and the APK UCC regarding student mastery of each SLO and preparedness for the final internship experience (APK 4940c).

Methods and Procedures

SLO Assessment Matrix

SLO Assessment Matrix for 2012-13

2012-13 Student Learning Outcome	Assessment Method	Measurement Procedure
Integrate principles and methods	Laboratory Practical	Exam score :
of math, social sciences, and arts	Exam	Passing/satisfactory
and humanities to applied		Total <u>></u> 27/45)
physiology and kinesiology,	Internship Evaluation	
wellness, and/or fitness		Supervisors
environments		evaluation
Identify and relate the	Laboratory Practical	Exam score :
nomenclature, structures, and	Exam	Passing/satisfactory
locations of components of human		Total <u>></u> 27/45)
anatomy to health, disease, and	Internship Evaluation	
physical activity.		Supervisors
		evaluation
Identify, examine, and explain	Laboratory Practical	Exam score :
physiological mechanisms of	Exam	Passing/satisfactory
homeostasis at various levels of an		Total <u>></u> 27/45)
organism (i.e., cells, tissues,	Internship Evaluation	
organs, systems).		Supervisors
		evaluation
Investigate and explain the effects	Laboratory Practical	Exam score :
of physical activity on psychological	Exam	Passing/satisfactory
health as well as the perspectives used to enhance adherence to	Internship Evolution	Total <u>></u> 27/45)
	Internship Evaluation	Supervisors
healthier lifestyles.		Supervisors evaluation
Identify and explain the acute and	Laboratory Practical	Exam score :
chronic anatomical and	Exam	Passing/satisfactory
physiological adaptations to	LXdIII	Total <u>></u> 27/45)
exercise, training, and physical	Internship Evaluation	10tal <u>~</u> 27/43)
activity.		Supervisors
activity.		evaluation
Select and utilize the appropriate	Laboratory Practical	Exam score :
scientific principles when assessing	Exam	Passing/satisfactory
the health and fitness of an		Total >27/45)
individual and prescribing physical	Internship Evaluation	
activity based on those		Supervisors
assessments.		evaluation
Solve applied physiology and	Laboratory Practical	Exam score :
kinesiology problems from	Exam	Passing/satisfactory
personal, scholarly, and		Total <u>></u> 27/45)
professional perspectives using	Internship Evaluation	

fundamental concepts of health		Supervisors
and exercise, scientific inquiry, and		evaluation
analytical, critical, and creative		
thinking.		
		-
Collect, compare, and interpret	Laboratory Practical	Exam score :
qualitative or quantitative data in	Exam	Passing/satisfactory
an applied physiology and		Total <u>></u> 27/45)
kinesiology context.	Internship Evaluation	
		Supervisors
		evaluation
Effectively employ written, oral,	Laboratory Practical	Exam score :
visual, and electronic	Exam	Passing/satisfactory
communication techniques to		Total <u>></u> 27/45)
foster inquiry, collaboration, and	Internship Evaluation	
engagement among applied		Supervisors
physiology and kinesiology peers		evaluation
and professionals as well as with		
patients, clients, and/or subjects.		

A variety of methods and procedures are utilized to assess, collect and analyze data relating to the department's nine student learning outcomes (SLOs).

Completion of the Academic Learning Compact (ALC) Evaluation by the student's internship site supervisor, as part of APK4940c Internship, is a form of direct assessment. The supervisors evaluate students on the 9 specific student learning outcomes. An example of the ALC evaluation is provided below. Responses are recorded on a 5-point scale, with 5 denoting the most positive response. Students must earn an average of 3 on a minimum 6 of the 9 competencies in order to successfully meet the ALC requirement. Indirect assessments include the APK Curriculum Survey, Internship Experience Evaluation, and information regarding student admission and denial decisions, graduation and enrollment.

Historically, the undergraduate academic advising office has compiled and maintained ALC data using the capstone internship as the sole determinant of whether or not SLOs were adequately achieved by our students. To provide a better method for outcome assessment, the undergraduate curriculum committee (UCC) plans to incorporate data from the APK 4125C class (particularly from the final practical exam) in the direct assessment of student achievement of the SLOs. A rubric for this exam is given below. This exam is administered to students individually by the lab teaching assistant or the course instructor. During the exam, the student is asked to perform assessments on themselves or the administrator and be able to comment on and answer questions regarding related anatomy, physiology, and course-specific content (not shown in the document) in a clear and professional manner. This exam is intended to simulate the interactions students are expected to have during their internship. This document is currently being revised to more clearly indicate how each section addresses each of the 9 SLOs and to change the grading scheme to a 5-point scale for each question or activity. This should aid in data collection, better ensure consistency across semesters when different instructors and teaching assistants will be administering the exam, and better align this direct form of SLO assessment with how internship site supervisors are asked to evaluate students. Students will be expected to earn an average

of 3 on this exam in order to successfully meet the ALC requirement. In addition, the UCC will review and make recommendations to the department chair and faculty regarding appropriate benchmarks for quantifying the successful completion of SLOs throughout the academic program and capstone internship experience.

The student Internship is evaluated through e-learning assignments and an Internship Experience Evaluation. Prior to graduation, all Applied Physiology and Kinesiology majors are required to complete a 520hour full-time internship in a research, rehabilitation or fitness setting. Four evaluations are completed by the intern's site supervisor: two progress reports, a midterm evaluation, and a final evaluation (see rubric below). Additionally, students have an opportunity to "rate" their internship site and provide feedback regarding their internship experience through the Internship Experience Evaluation and an e-learning assignment. Information provided will help the department in recommending the internship site for future interns as well as to help the internship site improve its internship program. The intern is encouraged to provide an honest, constructive evaluation of their experience. This information is sent directly to the APK Internship Coordinator.

At the end of each semester, the Department requires all APK majors who are graduating to complete the APK Curriculum Survey and the Profile of Position After Graduation form. Beginning Fall 2012, this information will be collected via Qualtrics. The current APK Curriculum Survey allows students to rate each of the universal tracking and major courses they took as part of the Applied Physiology and Kinesiology program as well as provide comments about faculty availability, teaching effectiveness, internship experience, and experience with advising and departmental staff. Beginning immediately, the APK Undergraduate Curriculum Committee plans to adapt this survey to include student evaluation of how well specified SLOs are introduced, reinforced, and/or assessed in specific core courses. The Profile of Position After Graduation form asks students to identify their post-graduation plans: have begun a job search or been offered a job (if yes, type of employment) and where; plan to attend graduate/professional school (if accepted, program of study and where); plan to enter military service (which branch).

APK 4125 – Fitness Assessment & Exercise Prescription Practical Lab Exam Rubric

The following table outlines the nine APK Student Learning Outcomes on which APK students will be assessed in this practical exam. Though every student will receive a different exam, an example of how the instructor might assess each SLO during this exam is listed. Each SLO is scored on a 0-5 point-based scale explained below the table.

APK Student Learning Outcomes (SLOs)	Example of how to assess each SLO within the context of Fitness Assessment & Exercise Prescription	Score (0-5)
Content SLOs	•	
 Integrate principles and methods of math, social sciences, and arts and humanities to applied physiology and kinesiology, wellness, and/or fitness environments. 	Student is asked to calculate the maximal heart rate of a 50-year old subject.	
2. Identify and relate the nomenclature, structures, and locations of components of human anatomy to health, disease, and physical activity.	Student is asked to identify the bony landmarks used as reference points for performing a triceps skin fold assessment.	
3. Identify, examine, and explain physiological mechanisms of homeostasis at various levels of an organism (i.e., cells, tissues, organs, systems).	Student is asked to classify a resting heart rate as normal, bradycardic, or tachycardic.	
4. Investigate and explain the effects of physical activity on psychological health as well as the perspectives used to enhance adherence to healthier lifestyles.	Student is asked how they could use a low-scoring/poor fitness assessment to encourage the subject to become more physically active.	
 Identify and explain the acute and chronic anatomical and physiological adaptations to exercise, training, and physical activity. 	Student is asked to explain the impact of cardiovascular exercise training on resting heart rate and blood pressure.	
Critical Thinking SLOs		
6. Select and utilize the appropriate scientific principles when assessing the health and fitness of an individual and prescribing physical activity based on those assessments.	Student is asked to select and perform the most appropriate method of body composition assessment for a morbidly obese subject.	
7. Solve applied physiology and kinesiology problems from personal, scholarly, and professional perspectives using fundamental concepts of health and exercise, scientific inquiry, and analytical, critical, and creative thinking.	Student is asked to use ACSM metabolic equations to calculate the VO2max of a subject if given submaximal test data and explain how submaximal tests can be used to estimate VO2max.	
 Collect, compare, and interpret qualitative or quantitative data in an applied physiology and kinesiology context. 	Student is asked to perform a waist-to-him measurement on a subject and relate this to the subject's cardiovascular health.	
Communication SLOs		
 Effectively employ written, oral, visual, and electronic communication techniques to foster inquiry, collaboration, and engagement among applied physiology and kinesiology peers and professionals as well as with patients, clients, and/or subjects. 	Student is able to demonstrate and explain how to perform a body composition assessment using the BIA scale.	
	TOTAL (Max 45)	

Students must earn a minimum of 27 points to pass this exam and be eligible for internship. If the student does not earn at least 27 points on this exam, they have one opportunity to remediate the exam in order to become eligible for internship. If an exam remediation is necessary, the original exam score is still used for course grade calculation.

Scoring Guide:

5 – Exceeds Expectations – Student is comparable to an early professional or graduate student in the field. No prompting or correction necessary. You would assign this student an "A+".

4 – Meets Expectations – Student is comparable to an advanced undergraduate student in the field. Student only needed one or two minor prompts, but did not need correction. You would assign this student an "A" or "B".

3 – Meets Minimum Standards – Student is comparable to an undergraduate student in the field. Student needs minor but continued prompting and no more than two minor corrections. You would assign this student a "C".

2 – Meets Some but Not All Minimum Standards – Student is comparable to a low-level undergraduate student in the field. Student can answer basic but not complex questions and is largely unfamiliar with protocols and concepts. Student needs continuous prompting and correction. You would assign this student a "D".

1 – Does Not Meet Any Expectations – Student is comparable to a high-school student. Student does not demonstrate characteristics that would indicate they have any familiarity with or interest in the field. Student needs major instruction, correction, and/or reprimand. You would assign the student an "E", representing failure.

0 - Unscoreable - Student did not advance quickly enough through the exam to be assessed on this SLO and cannot be scored in this category.

APK 4940c – Internship Final Assessment Rubric

In the right-hand column of the following table, please provide a rating of the student intern on at least six of the following Student Learning Outcomes (SLOs). If you are unable to judge a student in any area, please assign the student a zero for that SLO. A detailed description of the rating system is described below this table. Please use these descriptors to assign a **whole number** rating (1, 2, 3, 4, 5, or 0) to the student intern for each SLO. Please **do not assign fractional values** (e.g., 1.5, 2.5, 3.5, or 4.5). If a fractional value is given, the number will be rounded down to the nearest whole number. Please contact DeEtta Rhodes (drhodes@hhp.ufl.edu) or Lori Gibbs (lgibbs@hhp.ufl.edu) if you have any questions about this form or how to appropriately assess your APK student intern.

APK Student Learning Outcomes (SLOs)	Applied Examples (These examples are not exclusive; they are simply intended to provide clarity to the individual SLOs.)	Rating (0-5)
Content SLOs	[· · · · · · · · · · · · · · · ·	
 Integrate principles and methods of math, social sciences, and arts and humanities to applied physiology and kinesiology, wellness, and/or fitness environments. Identify and relate the nomenclature, structures, and locations of components of human anatomy to health, disease, and physical activity. Identify, examine, and explain physiological mechanisms 	 Student can perform body composition calculations. Student can identify socioeconomic impacts on health and fitness behaviors. Student can calculate target and max heart rates in order to prescribe aerobic exercise Student can identify muscles used in specific exercises and name other exercises that use those muscles. Student can name specific structures damaged by pathologies like diabetes. Student can explain the baroreflex. 	
of homeostasis at various levels of an organism (i.e., cells, tissues, organs, systems).	 Student can explain the bardenex. Student can explain why skeletal muscle cells atrophy when immobilized. Student can describe the impact of respiration on blood pH. 	
4. Investigate and explain the effects of physical activity on psychological health as well as the perspectives used to enhance adherence to healthier lifestyles.	 Student can explain how exercise helps depression. Student knows where to locate information related to psychological health impacts of various activities. Students can identify and properly refer individuals with eating disorders 	
5. Identify and explain the acute and chronic anatomical and physiological adaptations to exercise, training, and physical activity.	 Student can explain why resting HR and BP are reduced following endurance training. Student can identify immediate and long-term benefits of resistance training. 	
Critical Thinking SLOs		
6. Select and utilize the appropriate scientific principles when assessing the health and fitness of an individual and prescribing physical activity based on those assessments.	 Student can select a safe fitness test for a cardiac patient. Student can perform skinfold testing and use that data to prescribe appropriate amounts of exercise. 	
 Solve applied physiology and kinesiology problems from personal, scholarly, and professional perspectives using fundamental concepts of health and exercise, scientific inquiry, and analytical, critical, and creative thinking. 	 Student can describe which populations might be prone to ankle sprains. Student can identify medications which might lead to an impaired ability to perform aerobic exercise. Student can prescribe exercise to suit the goals of clients based on fitness assessments. 	
8. Collect, compare, and interpret qualitative or quantitative data in an applied physiology and kinesiology context.	 Student can perform a submaximal VO2 test and use the collected data to classify the subject's level of fitness. Student can perform a laboratory experiment and compare their results to other similar studies. 	
Communication SLOs		
 Effectively employ written, oral, visual, and electronic communication techniques to foster inquiry, collaboration, and engagement among applied physiology and kinesiology peers and professionals as well as with patients, clients, and/or subjects. 	 Student can explain to a patient the importance of hydration during exercise. Student can generate professional emails to ask scientific or medical questions. Student can generate an abstract to present research at a scientific or medical conference. 	
panona, anana, anaror adojota.	TOTAL	

Passing/Satisfactory (S): Total ≥18

Failing/Unsatisfactory (U): Total <18

5 – **Exceeds Expectations** – Student is comparable to an early professional or graduate student in the field. Student takes initiative to go above and beyond academic and applied expectations. Student needs no academic instruction/correction. You would assign this student an "A+".

4 – Meets Expectations – Student is comparable to an advanced undergraduate student in the field who would perform well in a more advanced academic, clinical, or research setting (or the like). Student meets all academic and applied expectations without prompting. Student may need minor academic instruction or correction, but demonstrates growth as a result. You would assign this student an "A" or "B".

3 – Meets Minimum Standards – Student is comparable to an undergraduate student in the field. Student meets all academic and applied expectations, but with continued prompting. Student needs minor but continued academic instruction or correction. You would assign this student a "C".

2 – Meets Some but Not All Minimum Standards – Student is comparable to a low-level undergraduate student in the field. Student meets some academic and applied expectations, but displays an inability or lack of familiarity with other expectations. Student does not demonstrate growth or development following instruction or correction. You would assign this student a "D".

1 – Does Not Meet Any Expectations – Student is comparable to a high-school student. Student does not demonstrate characteristics that would indicate they are familiar with or interested in the field. Student needs major instruction, correction, and/or reprimand. You would assign the student an "E", representing failure.

0 - Unscoreable - Student did not perform any duties related to this SLO and cannot be scored in this category.

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