REQUIRED Cover Page

APPLICATION FOR PROFESSIONAL DEVELOPMENT GRANT

**All applicants please complete this cover page.

Choose one: [ ] Creative activity [x] Research activity [ ] Professional Enhancement activity	**Date of Last PDG Award** (Semester and Year awarded): none **Date of ATU Faculty Appointment** (Semester and Year): Fall, 2004

1. **Project Title** Percent Fat Assessment of College Aged Students Using Hydrostatic Weighing (Underwater), "Traditional", Real-Time "Oxygen Dilution", "Head Out" and "Snorkel" Methods with that of BMI and Circumference Measures; A Study of Accuracy and Alternative Methods.

2. Name of Principal Investigator/Project Director: Kevin Kear, Ph.D.

3. School (abbrev): Education

4. Department: Health Physical Education

5. Campus Mail Address: 106 Hull Building

6. PI/PD Campus Phone: 968-0429

7. Amount Requested: ~~$9,552.00~~ 9554 pw

8. Total Cost of Project: ~~$9,552.00~~ 9554 pw

9. Does this project involve:

10. Duration of Project: June 30 2006

Yes	No	
[X]	[ ]	human subjects?
[ ]	[X]	animals/animal care facility?
[ ]	[X]	radioactive materials?
[ ]	[X]	hazardous materials?
[ ]	[X]	biological agents or toxins restricted by the USA Patriot Act?
[ ]	[X]	copyright or patent potential?
[ ]	[X]	utilization of space **not** currently available to the PI/PD?
[ ]	[X]	the purchase of equipment/instrumentation/software currently **available** to the PI/PD?

NOTE: If the answer is "yes" to any of the above questions, the investigator must attach appropriate documentation of approval or justification for use/purchase.

SIGNATURES

Department Head **Date**

Glenn Sheets 10-17-05

Dean, Glenn Sheets **Date**

REQUIRED COVER PAGE

This Section to be completed by the Office of Academic Affairs

PDC Committee Award Recommendation: Yes____ No____
PDC Committee Proposal Rank: _____ of _____ Total Proposals.
Recommendation of VPAA: Yes____ No _____
Recommendation of President: Yes____ No _____
Award Date: _____

Application for a Faculty Research Grant

Arkansas Tech University Undergraduate Research Office
September 30, 2004 to June 30, 2005

(Cover Page)

Project Title:
Percent Fat Assessment of College Aged Students Using Hydrostatic Weighing Underwater), "Traditional", Real-Time "Oxygen Dilution", "Head Out" and "Snorkel" Methods with that of BMI and Circumference Measures; A Study of Accuracy and Alternative Methods.

Date: October 14, 2005

Name(s) of Faculty	Title	Department	Phone
1. Kevin Kear, Ph.D.	Assistant Professor	Health and Physical Education	479-968-0429

B. ABSTRACT

Introduction: According to the National Institute of Health, sixty eight (68%) percent of the US population is either overweight or obese. The use of Body Mass Index (BMI) is currently being used throughout the world as a fitness assessment test of fatness but the accuracy of the BMI for assessing fatness has been questioned as a reliable test. The "Gold" Standard for percent fatness in humans is the Hydrostatic (Underwater Weighing) Method. Currently the Hydrostatic Weighing Tank is a new piece of equipment, available at ATU in the Heath and Physical Education (HPE) Department. The accuracy and the use of alternative methods to identify the reliable measures of fatness have been found to be inaccurate. Therefore, there is a need to find easy-to-administer alternative tests to the BMI and the other forms of standardized field tests that are accurate, reliable, cheap and easy-to-administer.

A total of forty eight (n=48) students, half of whom are female and half of whom are male subjects, college-aged subjects (ages 20-28) will be asked to volunteer for this study. College students will be solicited in ATU Physical Education Wellness classes. All subjects will perform all measurements and tests to include: 1. BMI weight and height, 2. Circumference with street clothes on and with bathing suit, 3. Hydrostatic weighing in the following methods, a. Traditional, b. Head Out, and c. Snorkel, with and without breathing 100% oxygen from an approved lab with and without swim goggles.

C. PURPOSE/OBJECTIVES: The purpose of the study is to evaluate different types of field tests that measure fatness comparing them to several methods of hydrostatic weighing to prove their accuracy. The researchers want to find alternative methods of assessing fatness in humans, by comparing the Gold Standard (Hydrostatic Weighing Method, combined with Oxygen Washout Method) with several other easy to administer tests that are inexpensive. The results would enable professionals, Physical Education majors and nurses, to give accurate information

to make lifestyle changes, concerning populations' body weight, by using a simple field test the in accurate and inexpensive for determining an individuals percent fat.

D. SIGNIFICANCE/NEED: Recent research has stated the inaccuracy of the BMI method for use to establish an individual's percent fat.

Research Projects:
The overweight and obese populations within America are wide spread. According to (Schoenborn, 2002), of adults aged 18 years of age and over (55%) were overweight and women (50%) were more likely than men (36%) to be healthy, although men were more likely to be obese than women. Ellis (1999) studied 979 Hispanic, Black and White children and found a standard error percent fat using the Body Mass Index (BMI) method of 4.7-7.3% which was significantly different at $p < 0.0005$. He also found that the BMI was gender and ethnic dependent ($p<0.0005$) when compared to dual-energy x ray absorptiometry method. The results falsely mislabeled a significant number of healthy children as overweight and obese. The accuracy and the use of alternative methods to identify the reliable measure of fatness have been found to be inaccurate, (Ellis, 1999; Savva, 2000). Savva (2000) evaluated circumference measures for waist-to-height compared to BMI and compared the two measures to risk factors in children. It was concluded that waist circumference and waist-to-height ratios were better predictors of cardiovascular disease risk factor analysis in children than was BMI.

Other science areas, such as in rehabilitation of chronic spinal cord injured, are also looking for alternatives to measuring fatness. Buchholz (2005) is recommending that a Spinal Cord Injury (SCI) for BMI classification be established to follow the weight of the paraplegic in terms of measuring adipose tissue.

Eisenkolbl (2001) evaluated the accuracy of bioelectrical impedance (BIA) and dual x-ray measures for determining fatness in children. The BIA was 12% lower in estimating fatness compared to x-rays.

Assessment:
A solution to all of these problems in accuracy and reliability is to control for the variables of fat testing, mainly the volumes of the lungs. Ostrove (1982) using immersion in water (Hydrostatic) for body density measures showed that measuring the lungs increases the accuracy of the fatness measurement. Error in hydrostatic weighing is the measure of residual volume, the air left in the lungs after a complete exhalation. Nitrogen washout, also known as Oxygen Dilution, actually measures the residual volume in the lungs, providing the most accurate technique available (Morris, 1999).

The grant is to purchase the needed equipment to attach to existing equipment in ATU's Human Performance lab. The researchers want to find alternative, cheap equipment that will test fatness accurately, but the Oxygen Washout technique requires that the instrumentation be available.

Creative Projects: The researcher proposes to use existing equipment in the ATU Human Performance Laboratory in HPE, a newly purchased Hydrostatic Tank, and combine it with equipment purchased by the Faculty Development Grant. The equipment will allow the measurement of a person's lung volume while underwater. Creativity and the use of a snorkel with Oxygen Dilution Method proposed herein, may give researchers a way to test all populations, including those who have difficulty expelling all of their air out of their lungs, a

difficulty of the test. The proposed grant and the equipment we purchase will allow for this most important measure of lungs volume, while under water in the Hydrostatic Weighing Tank.

E. PROCESS FOR ATTANIMMENT OF OBJECTIVES/GOALS

Subjects: A total of forty eight (n=48) students, half of whom are female and half of whom are male subjects, college-aged subjects (ages 20-28) will be asked to volunteer for this study. College students will be solicited in ATU Physical Education Wellness classes. All subjects will perform all measurements and tests to include: 1. BMI weight and height, 2. Circumference with street clothes on and with bathing suit, 3. Hydrostatic weighing in the following methods, Traditional, 4. Head Out, and with 5. Snorkel, with and without breathing 100% oxygen from an approved lab with and without swim goggles.

Methods:

1. Body Mass Index (BMI): the measuring of height and weight and comparison to a height and weight chart for the BMI number. The BMI number is then compared to three levels of fatness, average, above or below average. This number can also be converted to a percentage of fat via a regression equation. This BMI number will be compared to percent fat via all the other methods.

2. Circumference tape: measures formula of 5 sites, arm, neck, chest, waist, hips and thigh, with street clothes on and with a bathing suit.

3. Hydrostatic Weighing: is a technique to measure a person's body density, comparing the mass of the body in dry air, with that of the weight of the body under water. The major problem with this technique is the inability of the person to exhale out a complete breath, the vital volume, with the Residual Volume remaining in the lungs. The larger the Residual Volume, the more buoyant the body, the less weight on the scale that measures the person while under water.

a. Oxygen Dilution, the breathing of 100% oxygen is performed through a 5 liter bag, then the subject is immersed into a tank of heated and chlorinated water. The mixing of the person's lungs with 100% oxygen will expel quantities of oxygen, carbon dioxide and nitrogen. The metabolic analyzers that the University currently has, O2 and CO2 plus the purchase of the equipment for use of the Oxygen Dilution Method, will result in determining the percentage of nitrogen left in the lungs after the mixing process. Since nitrogen concentration is linear to volume, knowing the percentage will yield the volume of the lungs at the time the person goes under water. The Oxygen Dilution Method measures this Residual Volume, regardless of the completeness of the person's exhalation under water.

b. Head Out: This method was developed for those afraid of water immersion, or who could not exhale completely. Some studies have used head dimension calculations for volume and density corrections, and others did not.

c. Snorkel: A new method will be employed to allow subjects to stay under water, while breathing room air and then the 5 liter bag for the 100% oxygen. Swimming glasses will also be used during this stage for comfort of the subjects.

Grant: It has been found that the Oxygen Dilution Method to measure residual volumes increases the accuracy of lung measurements, which are crucial to the accuracy of the underwater method and for determining alternative methods for assessing percent fat.

E: Time Line

	Oct.	Nov.	Dec.	Jan.	Feb	March	April	May
Research:	XXXX							
IRB approval:		XXX						
Purchase Equipment		XXX						
Test Subjects:			XXXXXXXXXXXXXXX					
Analysis:						XXXX		
Reports, Article							XXXX	

ESTIMATED TIME FOR COLLECTION:

Estimated times:	Minutes
1. BMI:	5
2. BMI: to percent fat formula.....	5
3. Circumference measurements, (5).....	30
(with street clothes and bathing suit)	
4. Hydrostatic: with head in water, and head out:	40
5. Hydrostatic with O2 Dilution: with head in and head out:	40
6. Snorkel: with O2 Dilution and w goggles:	60
subtotal 180 min = 3 hrs	
7. Data transfer to spreadsheet	20
8. Research	30
9. Final Report	20
sub	70 hrs.

48 subjects x 3 hours = 144 hrs + 70 hours = 214

F. DISSEMINATION OF RESULTS:

The researchers will collect and store data in a secure area in the researcher's office, Hull 106. A final report of statistical finding will be written and sent out for publication. Several reports and published papers could be expected from a study this size.

G. I have never received funding from this committee before.

(As indicated on page 2 of 5 of the FRG, number 5, the IRB paper work will be submitted before the study can begin based on whether this grant is approved.)

H. BUDGET:

PROPOSED BUDGET
FACULTY RESEARCH GRANT

(include budget categories as appropriate)

1. Graduate assistant stipend
   Fringe benefits @ .4% (4/10 percent) of graduate assistant stipend — 0

2. Non-work study stipend — $1,102.00
   Fringe benefits @ .4% (4/10 percent) of non-work study stipend — ~~$ 44.08~~ 2
   ~~$1146.08~~ 1104

3. *Supplies (please list items to be purchased and estimated price per item including taxes and shipping, if appropriate):

   Item No. 1 (e.g., software) Estimated Price (100% Oxygen: $250.00
   Item No. 2 (e.g., copying costs) Estimated Price (Hydrostatic Chair) $700.00
   Item No. 3 Estimated Price (Hydrostatic Stairs) $800.00

   Total estimated supplies **$1750.00**

4. Travel (please list travel expenditures by date and estimated costs):

   Travel No. 1 Convention Presentation Estimated Price $1700
   Total estimated travel **$1,700.00**

5. *Capital Outlay (please list items to be purchased and estimated price per item including taxes and shipping, if appropriate):

   Item No. 1 Pulmonary flow meter Estimated Price $2,500.00
   Item No. 2 Oxygen Dilution Estimated Price $2,500.00
   Total estimated capital outlay **$5,000.00**

TOTAL PROPOSED BUDGET 9554 ~~**$9,596.08**~~

*Items purchased under $2,500 (including taxes and shipping) are considered supply items. Capital Outlay items are those which cost $2,500 or more (including taxes and shipping). Please contact the Purchasing Office for questionable items.

I. BIBLIOGRAPHY:

Buchholz AC, (2005) Bugaresti JM. A review of body mass index and waist circumference as markers of obesity and coronary heart disease risk in persons with chronic spinal cord injury Spinal Cord. Apr 12;

Eisenkolbl J, Kartasurya M, Widhalm K. (2001) Underestimation of percentage fat mass measured by bioelectrical impedance analysis compared to dual energy X-ray absorptiometry method in obese children. Eur J Clin Nutr. Jun;55(6):423-9.

Ellis KJ, Abrams SA, Wong WW. (1999) Monitoring childhood obesity: assessment of the weight/height index. Am J Epidemiol. Nov 1;150(9):939-46.

Evans PE, Israel RG, Flickinger EG, O'Brien KF, Donnelly JE. (1989) Hydrostatic weighing without head submersion in morbidly obese females.
Am J Clin Nutr. Aug;50(2):400-3.

Mei Z, Grummer-Strawn LM, Pietrobelli A, Goulding A, Goran MI, Dietz WH. (2002) Validity of body mass index compared with other body-composition screening indexes for the assessment of body fatness in children and adolescents. Am J Clin Nutr. Jun;75(6):978-85.

Morris MG. (1999) A novel non-invasive technique for measuring the residual lung volume by nitrogen washout with rapid thoracoabdominal compression in infants. Thorax. Oct;54(10):874-83.

Ostrove SM, Vaccaro P . (1982) Effect of immersion on RV in young women: implications for measurement of body density.
Int J Sports Med. Nov;3(4):220-3.

Savva SC, Tornaritis M, Savva ME, Kourides Y, Panagi A, Silikiotou N, Georgiou C, Kafatos A. (2000) Waist circumference and waist-to-height ratio are better predictors of cardiovascular disease risk factors in children than body mass index. Int J Obes Relat Metab Disord. Nov;24(11):1453-8.

Schoenborn CA, Adams PF, Barnes PM. (2002) Body weight status of adults: United States, 1997-98. Adv Data. Sep 6;(330):1-15.

Withers RT, Hamdorf PA. (1989) Effect of immersion on lung capacities and volumes: implications for the densitometric estimation of relative body fat.
Sports Sci. Spring;7(1):21-30.

J. APPLICATION VITA

2005 VITA

Kevin T. Kear, Ph.D.
Assistant Professor, Health and Physical Education
Appointed Fall 2004

Academic Degrees:

Ph.D.	Major: Clinical Exercise Science, The Ohio State University, 1983
Post M.S.	Major: Adult Fitness and Cardiac Rehabilitation, University of Wisconsin-LaCrosse, 1979
M.S.	Major: Physical Education and Recreation, Indiana State University, 1978
B.S.	Major: Physical Education & Health Ithaca College, 1974

PROFESSIONAL EXPERIENCES:

Currently: Assistant Professor, Department of Health, Physical Education and Wellness, Arkansas Tech Responsibilities include: teaching undergraduate and graduate students, advising Health, Physical Education and Wellness Science majors, teaching 12 semester hours, Human Performance Laboratory maintenance and services, performing research and teaching scientific foundation courses.

2004-2002: Clinical Health and Fitness Inc.: Research of products and development of performance enhancement products, beverages, electronic devices, bone mending device.

2001-2002: Leader Sports Medicine, 1775 Woodstock Rd., Roswell GA 30075
Responsibilities: Operating Human Performance Laboratory, muscle testing

1999-2001: Life University, 1269 Barclay Circle, College of Chiropractic, Research Department, Marietta, GA 30060 Responsibilities: The Influence of Subluxation on Athletic Performance,

1998-1999: Clinical Health & Fitness Inc.: Responsibilities: Muscle Testing for Personal Injuries, Workmen Compensation cases, Disability Impairment Ratings,

1994-1998: Pensacola Junior College, 5988 Highway 90 W, Milton FL 32583-1798
Director, L.I.F.E. Center, Milton Campus, (**L**ifestyle **I**mprovement and **F**itness **E**ducation, Center).
Responsibilities: To maintain the daily operations of the 35,000 square foot LIFE Center, including: building management, maintenance, scheduling facilities

1995-97: Adjunct Instruction: University of West Florida: (Master degree program) Exercise Physiology Exercise Prescription

1991-1992: Administrative Director of Exercise Physiology, Dept. of Preventive Medicine, Hermann Hospital, Nutrition & Human Performance Center, Houston, TX. Responsibilities: Out-Patient Executive Fitness Testing: Musculoskeletal Evaluation,

1989-1991: Senior Research Scientist-United States Space Program, Space Shuttle (Extended Duration Orbiter EDO) and Space Station Programs Exercise Countermeasures Project, NASA Johnson Space Center, Houston, TX. KRUG Life Sciences. Responsibilities: Exercise Countermeasures Project, Space Biomedical Research Institute.

1988-1989: East Tennessee State University, Assistant Professor: Director, Wellness and Research Institute, Department of Physical Education and Recreation, Johnson City, TN. Responsibilities: undergraduate and graduate Physical Education and Exercise Physiology classes. Operate Human Performance Laboratory

1986-1988: University of California Santa Barbara, Assistant Professor: Director of the Wellness and Fitness Inst. Responsibilities: Undergraduate

1985- 1986: Exercise Physiology Consultants: Hamilton Square, New Jersey. Self-employed, specializing in hospital and physician joint ventures for: Cardiac, pulmonary and diabetic rehabilitation.

1983-1985: Administrative Director Cardio-Pulmonary Exercise Programs. Institute For Medicine In Sports. Hamilton Hospital, Hamilton Township N.J. Responsibilities: Phase III and community based Wellness Programs. Development and implement: cardiac, pulmonary, diabetic rehabilitation

1980-1983: The Ohio State University, Graduate Teaching Assistant, Adult Fitness and the Cardiac Rehabilitation & Faculty Fitness. Teaching undergraduate courses for the Physical Education, Recreation Program, Exercise Physiology Dept.

1979-80: Adjunct, Southern Connecticut State College & Fitness Director for The American Heart Association, Responsibilities: Director of The New Haven Cardiac Rehabilitation,

1979: University of Wisconsin LaCrosse, Internship Seattle, Washington: Boeing Aircraft Corporation, Seattle, WA. Cardiac Rehabilitation

1978-79: LaCrosse, Wisconsin: Post master experience: Teach undergraduate Assessment to Physical Therapy Students, Exercise Leader, LaCrosse Exercise Program, LaCrosse, WI. Adult Fitness, Cardiac Rehabilitation, Assist with Technologist Workshops, for the American College of Sports medicine

1974-1977: St. Lawrence Central School, Brasher Falls, New York. Public Junior High and High School Physical Education Instructor, Driver Education. Coaching: H.S. LaCrosse, varsity basketball, women's varsity soccer, JV football. Coaching interests: volley ball, soccer, track and field.

REFEREED PRESENTATIONS:

2003: Shoulder Stabilization for Cervical Range of Motion Measurements: The Effect of Hand and Arm Position on Measurement Outcomes. Charles A Lantz, Stephane Roy, Emeka Chidebelu, BS, Steve Swindle, Kevin Kear, Ph.D.,Sid Williams Research Center, Life University, College of Chiropractic, Marietta GA 30062, Research presentation, Orlando FL, April , World Federation of Chiropractic

2001: Kelp Food Supplementation To Improved Overall Health For Young Children Inhabitants of Contaminated Radionulclides Territories of Rivne Region (Consequences of the Chernobyl Accident), A USA and Ukrainian Cooperative International Investigation. *Wannamaker WW III, Lelchitski N, Ilyinykh I, Boyarska OY, Lorzun VN, Cbumak AA, Bruslova EM, Cheban AK, *Kear KT. Research Center for Radiation Medicine of the Academy of Medical Sciences, Ukraine, Kiev and *Life University. International Journal of Radiation Medicine 2001, 3 (1-2) and the Abstracts of the 3rd International Conference/ International Radiation Medicine

1993: American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) "Maximal Isokinetic Strength Testing Of Cardiac Patients Before & After Two Types of Rehabilitation" Presentation for Annual meeting in October, 1993

1993: Group Achievement Award: Aaron Cohen of NASA, The Lyndon B. Johnson Space Center, Exercise Countermeasure Project, Isokinetic work of "Astronaut Strength Testing Before and After Space Flight",

1993: A new model for estimating total body water from bioelectrical resistance" Steven F. Siconolfi, Ph.D., 1. and Kevin T. Kear, Ph.D., 2. (1. NASA Johnson Space Center and 2. KRUG Life Sciences, Inc., Houston, TX 77058)

1993: Leg volume and blood changes after 7 days of bed rest, using a liquid Carbohydrate diet " Kevin T. Kear, Ph.D. 1, Helen Lane, Ph.D. 2., Steven F. Siconolfi, Ph.D.,2. (1. NASA Johnson Space Center and 2. KRUG Life Sciences, Inc., Houston, TX 77058)

1991 Hamdy RC, Anderson JK, Jameson D, Kear KT, "The Effects of Different Programs On The Skeleton". James Quillen College of Medicine, East Tennessee State University and Krug Life Sciences, NASA Johnson Space Center, Houston. Annals of Sports Medicine, April,

1991: KT Kear, L Murray, Gilbert A. "Exercise Prescription Specificity Comparing Upright Treadmill to Seated Ergometry Rowing Exercise". Aerospace Medical Association, May

1990: Kear KT, Anderson J, Hamdy R. "Humeral, Leg and Skeletal Bone Densities Of Weight Lifters and Crossed Trained Athletes" Aerospace Medical Association, New Orleans, May

1990 K.T.Kear, B.A Harris, J.C Hayes, A.D. Mazzocca, M.L. Roper, L.H. Barrows, B.A. Harris, and S.F. Siconolfi, FACSM. "The Effects Of Bedrest On The Relationships Among Strength And Endurance Measures Of The Quadriceps And Hamstrings". The American College Of Sports Medicine, National Convention, Salt Lake City, Utah, May 22,

1990: Kear KT, Hayes JC, Harris BA, Siconolfi SE, * (Spon Squires WG), "Muscle Performance, and Leg Volume Changes After Seven Days Of Bed Rest". Federation Of American Societies For Experimental Biology, FASEB, Washington DC, April.

1989: Kear KT, Hamdy RC, Whalen K. " Bone Density And Nutritional Changes Of A Competitive Power Lifter Following Deconditioning Then Conditioning Over a Five Month Period. Exercise Countermeasures Project Workshop, NASA, Houston TX, Oct.

1986: Selected by AAHPERD Research Council of Dissertations: Cardiac Swimming and A Traditional Rehabilitation Program of Bike-Walk-Jog: A comparison of Maximal Oxygen Consumption and Strength, Kear, Kevin Timothy, # 616.12, University of Oregon Microform Publications, Eugene, Oregon, 1986

1985: Cardiac Swimming and The Development of a System for Emergency Defibrillation In a Pool Environment. K.T. Kear, S. Schall, R.L. Bartels, FACSM, F. Davis, C. Busby, K. Berardinelli, T.E. Kirby. The Sept. of HPER, The Ohio State University, Columbus, OH 43210 Abstracts 8th Annual Mid-Atlantic Meeting of the American College of Sports Medicine, Pennsylvania State College,.

1985: Cardiac Swimming and a Traditional Rehabilitation Program of Bike-Walk-Jog: A Comparison of Maximal Oxygen Consumption. K.T. Kear, K. Beradinelli, R.L. Bartels FACSM, T.E. Kirby, R.L. Hamlin, S. Schall, C. Busby, T. Chodzin, M. Kelsey, M. Kurascz. The Dept. of HPER, The Ohio State University, Columbus, OH. 43210, Abstracts of the 8th Annual Mid-Atlantic Meeting of the American College of Sports Medicine, Pennsylvania State College

PRESENT AND OR PERMANENT CERTIFICATIONS:

2002- Current	Neuromuscular Therapist, FL (NMT)
1998- Current	National Association of Disability Evaluating Professionals- NADEP #46 National
1974- Current:	Permanent-Public School Certification from New York State
	Primary and Secondary (K-12), Physical Education & Health, Education Department, 1974
1974-Current:	Permanent-Driver Education Certificate, N.Y. State #A-8363

PROFESSIONAL ORGANIZATIONS:

Current:	Arkansas Licensed Massage Therapist (LMT)
Current:	American Alliance For Health, Physical Education, Recreation and Dance (AHPERD)
	Arkansas Association of Health Physical Education, Recreation and Dance (ArkAHPERD)
Current:	American College of Sports Medicine (ACSM)
Current:	Neuromuscular Therapy (NMT)
1999-Current:	National Association for Disability Evaluating Professionals (NADEP

Arkansas Tech University

Faculty Cover Letter

TO: Chair, Human Subjects Committee
c/o Department Head and Dean

FROM: Kevin Kear, Ph.D.

RE: Expedited Review of Enclosed Research Proposal by the Human Subjects Committee

DATE: September 30, 2005

PROJECT TITLE: Health Changes of Undergraduate College Students Engaged In A 12-Week, Health and Fitness Class; A Multi-Instructor Study

I hereby submit the attached research proposal for consideration under the Human Subjects Review Policy.
I request (check one)

X Expedited review (No more than minimal risk)

☐ Full review process (More than minimal risk)

Annette Holeyfield
Dawn Shotts

10/4/2005
10-4-05

Department Chair Date

Kevin Kear

Oct. 4-05

Researcher Date

10-6-05
Eldon Clary