

# Applied Exercise Physiology

The Major that Maximizes Career Options

Career Decisions and Strategies for Success



A Presentation  
By:



***John Scott Green, Ed.D., Ph.D., FACSM***  
***Full Clinical Professor and AEP Program Chair***

***Steven E. Martin, Ph.D.***  
***Assistant Clinical Professor and Director of FITLIFE***

# What is Applied Exercise Physiology ?

Applied Exercise Physiology is the study of immediate responses and adaptations to endurance exercise and resistance training and how they can be “applied” to improve quality of life.

## Prescribing exercise for both healthy and clinical populations

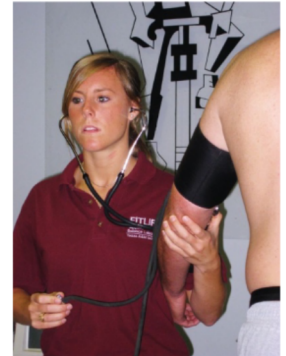
- Principles of personal training for healthy and impaired people
- Nutrition for the athletes, ergogenic aids, supplements

## Screening, treatment, and rehabilitation for cardiopulmonary disease

- Exercise testing, blood pressures, electrocardiography
- Prescribing rehabilitative exercises
- Drug interactions with exercise in the cardiopulmonary patient
- The interaction of selected common diseases with exercise

## Current treatments and therapies for athletic injuries and diseases

- Musculoskeletal, soft tissue, and traumatic injuries
- Treatment of pain and inflammation
- Current treatments and therapies for common diseases
- Therapeutic interventions (drugs, heat, cold, ultrasound, electricity)



*Click Lower Left Picture on Dr. Green's Web Page for Degree Plan*

# Aggie Applied Exercise Physiology (AEP)



## The Faculty

Steven Martin, M.S., Ph.D.

- Lab Coordinator, Assistant Clinical Professor, AEP Club Advisor

John S. Green, Ed.D., Ph.D., FACSM

- Program Chair, Internship Coordinator, Full Clinical Professor

Brad Lambert, B.S., Strength, Conditioning, and Personal Training Specialist

- Lab Instructor, Graduate Research Assistant, CSCCA-SCCC, ACSM CPT

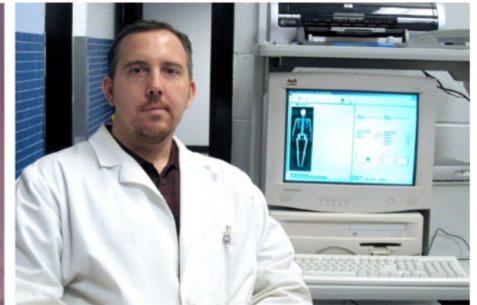
Dr. John S. Green



Mr. Brad Lambert



Dr. Steven Martin



# How Do I Get Into The Applied Exercise Physiology Program (See Academic Advisor For Complete Details and Questions)

## Complete Prerequisites:

1. Minimum of 45 credit hours toward degree, 30 in core curriculum, 18 at TAMU
2. Completion of all English, Science, and Kinesiology courses with a “C” or better

## Make Application to the Professional Phase of the Program

1. Complete AEP math & science course worksheet (see your advisor: Russel Ramirez).
2. Complete a RESUME and submit with your application.

## Pass Professional Phase Acceptance Reviews:

1. Faculty committee will review all applications  
Up to 60 students will be accepted during the year  
(24 in the Fall, 24 in the Spring, and 12 in the Summer).
2. Most everyone gets accepted but the committee does consider the following:
  - Overall GPR
  - Science courses GPR, (grades in Biology 319 and 320 are looked at closely)
  - Resume content pertaining to relevant professional / volunteer experience

# What Type Of Activities Are There Outside Of Lecture

## KINE 439

- Laboratory Activities
  - Estimation of body fat % using skinfolds, hydrostatic weighing, & impedance
  - Assessment of blood pressure at rest and during exercise
  - Acquisition and interpretation of resting and exercise electrocardiograms
  - Strength and power assessment
  - Assessment of pulmonary function
  - Analysis of exercise metabolism ( $O_2$  consumption and  $CO_2$  production)
  - Exercise program development for personal training
- Assisting with exercise class instruction and other aspects of the **FITLIFE** program

*Other Great Activities....Check out the next few slides → →*

## KINE 483

- Participation in research activities with faculty members
- Directing and teaching and exercise class
- Performing clinical assessment on fire fighters and police officers
  - Graded exercise testing, strength and flexibility testing, pulmonary testing
  - Working with a cardiologist, producing computer generated wellness reports
- Learning the art of phlebotomy (drawing venous blood)

# Working with Texas A&M Athlete Testing



# Putting On The Emma Gibbons Memorial Fun-Run

Start of the Race: 2007



Awarding Door Prizes: 2006



Alliance for Women's Health runners: 2006



The Frogman: 2005



# Hear Speakers From Various Professional Fields



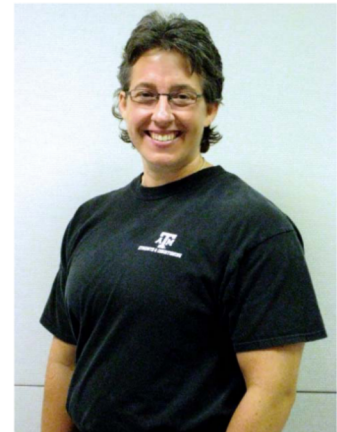
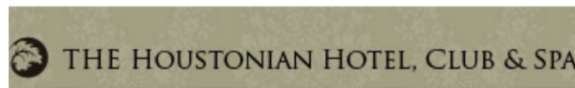
**Shaun Stratton, M.S., LPT**

Shaun works at St. Joseph Rehabilitation Center in Bryan and talks about such things as strategies to get admitted to PT school, current salaries in PT and other therapy related professions, and how to land your first PT Job. She also talks about the future of PT regarding “hanging out your own shingle” and problems with health insurance.



**Bob Talamini, ACSM Certified Personal Trainer**

Bob is a personal trainer for the Houstonian and discusses how to get into personal training and start your own training business. He specializes in outdoor and adventure race training and has been extremely successful in “carving his own niche” in the personal training industry.



**Rachelle Ellsworth, C.S.C.S, Master Strength Coach as certified by the Collegiate Strength & Conditioning Association**

Rachelle is an assistant strength coach for Texas A&M athletics. Her talks center on entry level qualifications as well as the difficulties of breaking into the strength and conditioning field.



# In what type of places can I intern ?

- **Clinical Sites**

- **Baylor College of Medicine (Tom Landry Center) - Dallas, TX**
  - A place to experience both cardiac rehab and corporate fitness / personal training
- **Doctor's Hospital - Dallas, TX**
  - The most advanced facility of it's kind in the country for cardiac & pulmonary rehab
- **St. Lukes Hospital - Texas Medical Center, Houston, TX**
  - One of the first and still the best hospitals in the country for heart surgery & rehab
- **The Dallas Heart Group**
  - Assist with nuclear stress testing and patient office visits

- **Corporate / Personal Training Sites**

- **Genesis Athletic Performance Training - Houston, TX**
  - Learn to train both beginning and advanced athletes
- **The HIT Center - Austin TX**
  - Learn the latest in fitness technology and how to use it to train clients
- **TCU Strength and Conditioning - Houston, TX**
  - Experience training some of the finest college athletes in the country
- **The Michael Johnson Performance Center – McKinney (North Dallas), TX**
  - The latest performance training equipment & the most experienced trainers

# Intern Sites - Clinical, Diagnostic, Cardiac Rehabilitation



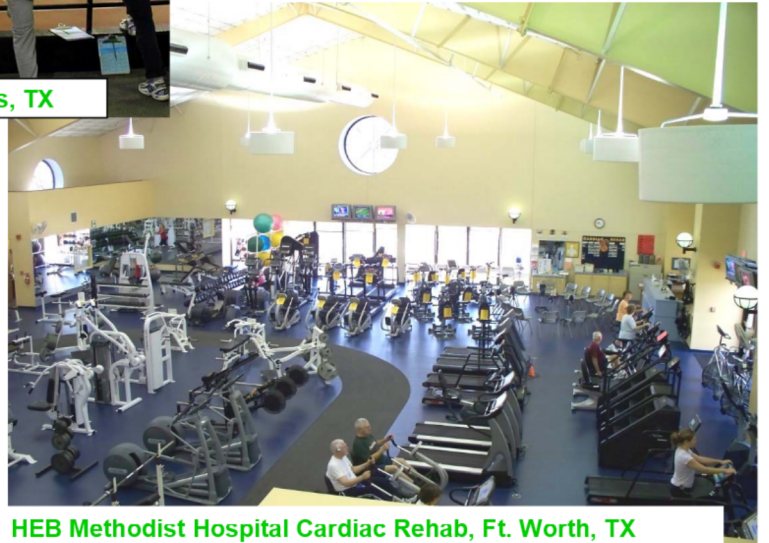
Finley Ewing Cardiac \ Pulmoanry Rehab, Dallas, TX



Hermann Hospital Wellness Center Houston, TX



St. Joseph Cardiac \ Pulmoanry Rehab, Bryan, TX



HEB Methodist Hospital Cardiac Rehab, Ft. Worth, TX

# Intern Sites

Personal Training / Corporate & Club Fitness / Strength & Conditioning



Univ. of Houston Strength & Conditioning, Houston, TX



The Michael Johnson Performance Center, Dallas, TX

# Can I get my own internship ?

- **In a Word: NO!**

- **As of January 2004, no new internships will be procured**
  - Students must select from internships that have current A&M affiliation

- **WHY ?**

- **All internships must have an agreement on file with Texas A&M**
  - Agreement must be approved with A&M office of Contracts & Compliance
    - Many hospitals, fitness centers, and corporate facilities will not sign A&M's agreement & visa versa
    - Issues: site wants A&M to assume liability, Hep C vaccinations, TB test, site wants A&M to assume responsibility if intern violates privacy laws, and may require background checks on students & professors

- **Exceptions ?**

- **Only under extreme hardships will exceptions be made**
  - Final decision rests with AEP chair – site must meet minimum requirements
  - “once in a lifetime opportunity”, “job after internship”, and “will help me get into professional school” are not hardships.

# What are my career options after graduation ?

- **Professional School**

- Medical School, Physician's Assistant
- Physical Therapy, Occupational Therapy, PT Assistant, OT Assistant
- Nursing School (RN, LPN, Nurse Practitioner, Nurse Anesthetist)
- Technical School: Sonographer, Respiratory Therapist, Radiology Tech., Perfusionist, Medical Technologist (laboratory technologist)

- **Jobs - an internship provides a key link to the profession**

- Cardiac Rehab Specialist, ECG Tech, Personal Trainer / Fitness Specialist
- Dietitian & Sports Nutritionist (requires extra hours in nutrition area)
- Strength & Conditioning Coach (requires previous link to S&C programs)
- Pharmaceutical Sales, Medical Equipment Sales & Service

- **Graduate School**

- M.S. Ed.D. Ph.D (teaching in public schools, colleges, or universities)
- MBA (administration in corporate fitness, club fitness, clinic, or hospital)
- MPH, DPH, MHA (administration in public health, clinic, or hospital)

## **Strategies for Success in Applied Exercise Fields**

### • **Plan to continue your education**

- A Bachelor's degree should be viewed as a "stepping stone" degree
- Get some experience before going to graduate / professional school
  - Experience in the field will strengthen your application

### • **Keep in touch with what is going on in your profession**

- Join a professional organization and attend their conferences
  - Many professional are interviewed and hired at conferences
- Maintain close contacts with professors & previous employers

### • **Always be on the lookout for opportunities to "move up"**

- Make a conscious effort to seek out these opportunities
  - Check out big city Sunday paper job listings
  - Surf the web for job sites related to your desired profession
  - Subscribe to job clearinghouse sites that send out e-mails of jobs

# Strategies for Success

## Obtain Certification in a Particular Field

- Required by most corporate and public fitness institutions
- Looks good on a resume / application

### ACSM Certifications

[http://www.acsm.org/Content/NavigationMenu/Certification/GetCertified/Get\\_ACSM\\_Certified11.htm](http://www.acsm.org/Content/NavigationMenu/Certification/GetCertified/Get_ACSM_Certified11.htm)

- Entry level:
  - Health Fitness Instructor (compare to ACE or AFFA entry level certification)
- Advanced:
  - Exercise Specialist
  - Registered Clinical Exercise Physiologist

### NSCA Certifications <http://www.nsca-cc.org/>

- Personal Trainer
- Certified Strength & Conditioning Specialist

### Cardiovascular Credentialing International <http://www.cci-online.org/>

- Registered Cardio Invasive Specialist • Registered Cardiac Sonographer
- Registered Cardiovascular Eletrophysiology Specialist

# Strategies for Success

## Become a Member of a professional organization

- American Alliance for Health PE Recreation & Dance (AAHPERD)
  - <http://www.aahperd.org/>
  - Regional Chapter: TAHPERD
- American College of Sports Medicine (ACSM)
  - <http://www.acsm.org/>
  - Regional: Texas Chapter of the ACSM (TACSM)
- American Association of C.V. and Pulm. Rehab. (AACVPR)
  - <http://www.aacvpr.org/>
  - Regional: Southeast Texas Association of AACVPR (SETA)
- National Strength & Conditioning Association (NSCA)
  - <http://www.nsca-lift.org/>
- American Council on Exercise (ACE)
  - <http://www.acefitness.org/>
- Aerobics & Fitness Association of America (AFAA)
  - <http://www.afaa.com/>

## Approximate Entry Level Salaries for Allied Health Professions

|                             |                                |
|-----------------------------|--------------------------------|
| Ex. Physiologist (BS)       | \$29,000 (\$24,000-\$55,000)   |
| Ex. Physiologist (MS + exp) | \$34,000 (\$29,000-\$50,000)   |
| Physician Assistant         | \$72,600 (\$67,300 – \$78,300) |
| Nurse Practitioner          | \$66,000 (\$52,000 – 90,000)   |
| Physical Therapist          | \$68,500 (\$56,100 – \$70,900) |
| Occupational Therapist      | \$59,200 (\$54,500 – \$66,600) |
| Registered Nurse (RN + exp) | \$57,500 (\$52,800 – \$62,800) |

**More up to date salary info at:**

<http://payscale.com/research/US/Country=United States/Salary>