



**College of Education  
Department of Exercise Science & Health Promotion  
Academic Program Review  
2016  
Reviewers' Report**

**Introduction**

A review of the Department of Exercise Science & Health Promotion (ESHP) at FAU was conducted in order to serve as a "vehicle for initiating strategic change over the next 5-7 years." Consequently, the following report is based on the assumption that it would be entirely unacceptable to maintain the *status quo*.

A review team consisting of Drs. Lee Klingler (Florida Atlantic University: Professor, Department of Mathematical Sciences) and Lawrence Weiss (University of Memphis: Professor, School of Health Studies) met with students, faculty, and staff from the Department of ESHP as well as college and university administrators on January 21-22, 2016. In addition, Dr. Michael Whitehurst, FAU ESHP Department Chair, escorted Dr. Weiss (content expert) on a tour of relevant campus facilities on January 23, 2016. The meetings and tour provided important information and complemented the previously-available written materials furnished by the Department. Overall, the visit and departmental internal report were highly useful for obtaining the information needed to provide an evaluation of the Department. In fact, the *ESHP Departmental Self-study Report* and this review report should have equal utility. The reviewers were "outsiders" who examined a large amount of information in a short period of time. However, the reviewers had no personal stake in the process and could, therefore, be very objective. At the same time, the departmental self-study report was assembled by individuals with an intimate knowledge of the programs. Consequently, conditions and procedures that we questioned or negatively critiqued may have been completely appropriate based on local circumstances. The combination of both perspectives should result in a realistic and balanced picture of the departmental structure and offerings. The review team acknowledges the considerable time and effort that went into organizing and implementing the site visit as part of the entire review process.

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### **Mission & Purpose of Program**

Interdisciplinary bachelors and master's programs in the combined areas of *exercise science and health promotion* (ESHP) are offered. At the graduate level, additional specialization is available in 1) exercise physiology, 2) health promotion, and 3) strength & conditioning. These programs are designed to "prepare students for careers in clinical, corporate, and community/non-profit based physical fitness and health promotion," for post-graduate study in applied health sciences (e.g. physical therapy, physician assistant), or for advanced study in human biology/physiology, exercise physiology, motor control, biomechanics, strength & conditioning, and related fields. In response to the increasing proportion of our total population that is living well into their "retirement years," the increasing complexity of our healthcare system, and growing healthcare costs, the primary focus of the undergraduate and graduate programs in ESHP is on the contribution of healthy lifestyles to preventative health.

### **Peer/Regional Program Comparisons**

As noted in the departmental self-study report, the bachelors program compares favorably with the nature and rigor of typical well-respected programs in the state and geographic region. These programs primarily focus on exercise science and have increasingly become *destination prerequisite programs* for those aspiring to continue their training in medical/clinical areas. With undergraduate credit-hour caps at most institutions, the development of creative approaches to facilitate students being able to take prerequisite "hard science courses" within the 120-hour program of study is a common challenge.

The master's program with its three *tracks* is comparable to programs having *concentrations*. Both scenarios are characterized as providing additional specialization in disciplines determined by the respective institutions. The areas emphasized at FAU are: 1) exercise , 2) health promotion, and 3) strength & conditioning. For all three tracks, the student may choose to conduct a thesis or complete additional coursework for a comparable number of credit hours. This is also a common practice at most state and regional institutions offering similar program emphases. Graduates are typically well prepared to qualify for professional certifications in the respective disciplines.

### **Curriculum**

At the undergraduate level, the program of study compares favorably with well-respected exercise science programs across the country with each having its own special unique character often based on state or institutional limits and/or flexibility. The ESHP program purports to deliver a program for both exercise science and health promotion. However, it appears the inclusion of health promotion in the program of study is well-meaning but essentially a token gesture. Based on the nature of the large student population, it would be reasonable to offer separate exercise science and health promotion tracks, if faculty could be freed up to deliver the requisite courses. It is conceivable that as few as 12 credit hours could distinguish the two programs. In fact, 12 credit hours of designated health promotion classes are required to sit for the Certified Health Education Specialist (CHES) exam. For those students not wishing to pursue subsequent medical or clinical training, a Health Promotion track may be more

suitable than the limited exposure currently available. (The main point is that the current program, save one course, is primarily focused on exercise science. Therefore, inclusion of health promotion in the title is somewhat misleading.) The proportion of students who would choose to matriculate in the respective proposed undergraduate tracks is unclear at this time, but it is our expectation that both tracks could be viable.

### **Class Size**

Based on the increasing popularity of undergraduate exercise science & health promotion programs across the country and the apparent high regard for the FAU program, class size has been dramatically increasing. With institutions strapped for funds, the availability of small class offerings to keep pace with demand has become problematic. Therefore, an increasing demand for larger classes in theater venues has become a common *necessary evil*. This can create a dilemma for laboratory classes/ experiences that simply cannot accommodate large numbers of students at one time.

### **Laboratory Experiences**

Required courses requiring a laboratory experience are problematic for large sections and either result in bottlenecks due to enrollment caps or force instructors to use these experiences on a demonstration-only basis. The demonstration-only scenario may result in an ill-prepared student going into an internship experience or work setting, both of which are undesirable. At the University of Memphis, we addressed this issue several years ago in response to concerns expressed by internship site supervisors. Our solution was to remove the laboratory experience from the respective courses and require a comprehensive laboratory applications and interpretation course during the semester just prior to the internship. We have found that the exposure and experience is better, and there is less time for students to forget prior to the internship. Based on internship site supervisor feedback, students are dramatically more competent and confident. Although this approach may be inappropriate for your program, you might consider some adaptation of it. With your student population, the instructional laboratory capabilities would determine the number of students that could be accommodated in each section.

### **Internship, Practical/field Experiences**

The internship is a capstone course and includes 400 contact hours of field experience which we assume translates into 9 credit hours. The contact hours are on the high side unless dictated by the state of Florida or FAU for capstone experiences. You might consider reducing the requirement to 6 credit hours and replacing the remaining 3 with an unrestricted elective or required co-requisite course. This could free up 3 credit hours to accommodate the needs of students for a specific hard-science course or for health promotion elective, depending on the student's career aspirations. The internally-delivered *Community Health-fitness Program* is an especially-good option for those in the proposed health promotion track.

**Electives**

The current undergraduate program configuration includes 12 credit hours of elective credit. A minimum of 6 of those hours must be selected from departmental elective offerings. This is likely an impediment to some extent for students wishing to be subsequently admitted into medical programs. If allowed, they would more than likely enroll in prerequisites for medical admission such as specific biology, chemistry, and/or physics courses. Unless creative measures are taken to increase the availability of and flexibility in taking elective hours, premedical/preprofessional students will continue to have to complete more than 120 credit hours of undergraduate coursework. Although 120 hours may be unrealistic, getting more *in the ballpark* would be desirable.

**Student Recruitment**

Extensive recruitment efforts at the undergraduate level would be analogous to *adding people to an already overloaded lifeboat*. Continued increases in enrollment without concomitant infrastructure and human resource increases would place more burdens on an overburdened faculty and staff with unknown negative consequences.

At the graduate level, additional enrollment is desired since the institution aspires to be a research-intensive university. However, great students, especially those from other states or countries, normally require competitive full-time assistantships that other research-intensive institutions are willing to provide. Resource commitments are needed for this to happen. However, until *graduate faculty* numbers are increased, substantially-increased graduate student enrollment may be *too much of a good thing*. In combination with the high undergraduate teaching load, additional supervision of thesis research would more severely stress the existing overburdened program and likely detract from what should be a great mutually-beneficial experience.

Based on the nature of the graduate program, and in order to enhance recruitment, you might consider attempting to partner with local professional teams and/or research hospitals to establish a 3-year co-op program. Such a program would include alternating semesters of coursework and paid internship. The sponsor would also conceivably fund tuition during the semesters when coursework is taken. You and the sponsor would want to thoroughly screen candidates and they would need to agree to take a longer time to graduate. However, they will have acquired professional work experience while working on their master's degree. Obviously, these students would be less likely to get involved in on-campus laboratory research. At the same time, if you are able to find appropriate corporate partners, the student may acquire tremendous training and professional experience.

**Infrastructure**

Faculty are housed in four different facilities resulting in minimal incidental or casual professional contact. This arrangement is counterproductive as it tends to isolate faculty. Research laboratory space is relatively cramped and the instructional lab primarily servicing the large undergraduate program is quite small and modestly equipped.

Faculty should be housed in the same facility and in relatively-close proximity to each other to facilitate communication and cross-collaboration. A realistic plan should be developed and implemented that at least doubles the existing disjointed office and laboratory spaces and consolidates them into one location (with the exception of the animal lab). The instructional exercise physiology lab primarily services the large undergraduate program and should be replaced by one approximately three times the size of the current one. In addition, a separate biomechanics research laboratory is needed to accommodate evaluative capabilities overseen by two new faculty lines that address myriad needs. (To provide an idea of appropriate size, the "biomechanics" lab at the University of Memphis is 2,000 square feet. In addition, our instructional exercise physiology lab is approximately 1,500 square feet.) Dedicated laboratory space, motion analysis equipment, multiple large force platforms, and dedicated computers will be needed at a minimum to get these facilities operational for gate analysis, motion capture analysis of sport performance, as well as kinetic and kinematic assessments of various exercise activities. All of these assessment capabilities would complement the ongoing and projected departmental research activities associated with healthy aging and athletic performance enhancement.

To support instruction, one arena-seating auditorium seating up to 250 students is needed within or in close proximity to the consolidated space just mentioned. This arrangement is likely to accommodate current and future needs for large-class instructional delivery. In addition, at least two 75-seat instructional classrooms are also needed to accommodate smaller undergraduate classes and one 25-seat "seminar" room to accommodate graduate classes.

### **Faculty**

Existing faculty members have noteworthy positive outlooks and appear to be competent, highly dedicated to the program, and extraordinarily energetic. This combination of characteristics is indicative of a highly-desirable working culture that stems from the ongoing interaction between the administration and faculty. "During the time period from 2009-2014, enrollment for the undergraduate ESHP program increased 126%.... while the COE and University enrollment increased by 2.01% and 21.1%, respectively." The number of faculty who deliver the undergraduate and graduate FAU ESHP programs is the same as it was prior to the dramatic increase in students including "12 faculty (chair included) serving approximately 1,200 undergraduates and 65 MS students. Of the state (Florida) programs cited, UCF and UNF are most similar to FAU, yet they have 20 and 17 faculty, respectively." This indicates one of two things, either the programs at UCF and UNF are overstaffed or the FAU program is understaffed. It is our impression that UCF and UNF have more realistic expectations for the staffing needed to deliver existing and consistently-growing ESHP programs. This is particularly realistic when you consider the research productivity of the current faculty. With the limited number of faculty delivering a large undergraduate program, minimal research expectations are warranted, so it is remarkable that they are as productive as they are.

Clearly, the department faces a serious problem in that demand for its program offerings have dramatically increased without corresponding increases in faculty/instructor/staff support or infrastructure availability. In fact, it appears no increases in faculty positions or facilities (the animal lab is a noteworthy exception) have occurred during this period of unprecedented growth. It is clear that the department was not previously "overstaffed," so great sacrifice by faculty and staff has been required to manage this phenomenal growth. This situation is unsustainable without eventually sacrificing the quality of program delivery, and it carries the further risk of encouraging the most productive faculty to seek jobs (with more accommodating circumstances) elsewhere. In addition, with institutional aspirations for greater faculty research productivity, this situation is untenable.

An obvious piece of the puzzle missing in the department is graduate faculty presence in biomechanics. This discipline is both independent and supportive of a myriad of exercise science activities ranging from geriatric to pediatric populations, and from recreational- to industrial- to daily living- to elite performance-activities. To adequately address this shortcoming, the department needs to phase in the acquisition of two tenure-earning faculty positions in biomechanics.

### **General Impressions**

Generally speaking, the review team found that the ESHP Department faculty and staff were genuinely concerned and vested in the educational process of their undergraduate and graduate students. Although student interaction with the review team was limited, the dramatically-increased size of the program suggests the existence of both a strong demand for and reasonable satisfaction with its offerings. Infrastructure, organizational, and financial shortcomings are readily apparent and need to be expeditiously remediated by the university. Because of the recent extraordinary programmatic growth and absence of concomitant resource and infrastructure adjustments, the department is likely to inevitably suffer undesirable consequences from the weight of its own success. In particular, the overuse of short-term fixes and protracted "juggling of too many balls" will likely eventually result in any or all of the following circumstances:

- loss of productive research-intensive faculty members to institutions offering a work environment that is substantially more financially rewarding and conducive to performing such activities;
- decreased viability of student professional development due to inadequate facilities and human resources to work with both the high-aspiration pre-professional students heavily populating the program and those who consider this as being their "terminal degree"; and
- one or more "poor decisions" made by overly-stressed and fatigued faculty and staff that are likely to have been avoidable public relations problems for the program and institution.

In essence, attempting to deliver programs that outstrip available resources should only be done on a short-term emergency basis. In order for the department to have a reasonable chance even to maintain the multifaceted gains in its programs, a realistic

commitment from the university is needed. Dramatically-increased enrollment in the undergraduate program and increased faculty efforts to carry out relevant and far-reaching research involving master's-level students have combined to place undue stress on both human resources and the general infrastructure utilized to deliver these programs.

The undergraduate program in ESHP is a popular "feeder" program for students hoping to obtain subsequent medical/clinical/research training. As long as the program retains its reputation as being one of the most viable mechanisms for attaining subsequent entry into these types of programs, students will continue to enroll. However, if protracted student demand outstrips the programmatic infrastructure, alternative options will emerge in response to this need, possibly at other institutions.

Long-term multifaceted commitments need to be made by the university in order to ensure a reasonable chance for successful program delivery. Otherwise, expectations for growth and enhanced notoriety need to be curtailed. Currently, the pursuit of federal or private external funding does not appear to be a high priority for the Department or the College, even though it is a high institutional priority. If that expectation were to change at the College level, reductions in faculty responsibilities over and above what we have already noted would be essential in order for them to regularly develop competitive research proposals and subsequently carry out those that are funded.

A consistent observation of the review team was that faculty members were pleased with the College Dean as well as the ESHP Department Chair. However, it was also clear that concerns existed with faculty about potential future developments in a College heavily vested in teacher education. The inevitable eventual change in leadership at that level could place the department's status in jeopardy. Accordingly, plans should be developed for granting this academic unit more autonomy by granting it School status.

### **Overriding Issues**

The following five points are overwhelmingly obvious based on the departmental review report as well as discussions with assorted campus contingents:

1. The undergraduate program in particular has experienced dramatic growth over the last several years, more than doubling in size. Many of these students aspire to continue their training following graduation in Allied Health/Clinical/Professional fields such as physical therapy, occupational therapy, chiropractic medicine, traditional medicine, osteopathic medicine, athletic training, nursing, physician assistant, and related areas. Students must take additional elective hours in the hard sciences beyond the 120-hour program in order to qualify for entry into the aforementioned programs.
2. Even in the face of explosive undergraduate student growth, the number of faculty members has remained essentially constant with course delivery accomplished by having them teach both overloads and large-section classes. This is counterproductive on multiple levels but faculty indicated that

compensated overload teaching is necessary in order to "make ends meet." The institution needs to address the salary issue since the very productive scholars are likely to be enticed at some point by other institutions to depart from FAU based on higher salary-to-cost-of-living ratios and substantially lighter instructional loads found elsewhere. Most of these individuals are intrinsically motivated to engage in extensive research activities. However, at some point, burnout is a likely outcome for some, or they may feel they can be much more productive elsewhere with a lighter teaching load. If they are able to obtain a higher salary elsewhere, then these highly-prized faculty members will likely move on.

3. Departmental office and laboratory venues are split into four different locations, in addition to the separate animal laboratory site. Casual interactions between faculty members are consequently curtailed. Departmental classroom space appears to be quite limited. Furthermore, Athletics & Recreation appear to have priority control over "their" facilities so that some academic activities must be moved and space availability is restricted to only specific times of the day/night.
4. Graduate advising is appropriately accomplished by Graduate Faculty, but expanding student mentoring concurrent with existing faculty responsibilities would be problematic.
5. Undergraduate advising by the junior year is accomplished by at least two instructors. In large programs elsewhere with limited faculty, this is ordinarily provided by one or more dedicated staff members, so that faculty time may be devoted to instructional delivery and intern supervision. Academic advising in a large program by faculty might be considered a suboptimal use of scarce resources. (This arrangement may be more reasonable than it appears to the reviewers.)

### **Observations and Recommendations:**

#### **General**

*It cannot be overstressed that the department is substantially understaffed.* It is customary to have a minimum of two faculty members with expertise in each sub-discipline of the respective general areas. For example, in exercise physiology you would expect to find no less than two wet-lab and one or two performance/applied exercise physiologists, two biomechanists, at least one specialist in discipline-specific research design, measurement and statistics, one or two people in motor control, and one or two people in exercise psychology. "Lone-wolf" operations exist in the field, but there is always risk that the operation dies with the departure of that faculty member.

**Recommendation 1:** Understaffing should be considered as a temporary or "emergency" scenario only, with plans for phased in remediation expeditiously implemented.

The University's *Healthy Aging Pillar* appears to be a common thread that could connect graduate faculty from the three disciplines as well as faculty across campus. This



linkage based on the *Healthy Aging Pillar* should not be forced, but it would be a *natural* offshoot if myriad disciplines across campus occasionally got together to discuss their respective current contributions to this University focus area. Curious and innovative scholars who have some idea of what others are doing in the area will determine if some sort of cross-collaboration is feasible or desirable.

**Recommendation 2:** The department should exploit every opportunity to connect with other units in this "university pillar."

The Exercise Science & Health Promotion (ESHP) academic program appears to be well thought-out and is similar to many across the United States, except the one required course offering in Health Promotion appears to be an essentially "token" gesture. Health promotion faculty members currently have a minimal stake in the undergraduate program. In order to sit for the *Certified Health Education Specialist* (CHES) examination, students must have successfully completed 12 credit hours of appropriate health promotion courses. *Since this is a desirable credential for Health Promotion professionals, it would be appropriate to offer such courses in the current program.* The current program cannot simultaneously address the needs of students with exercise science aspirations versus those with health promotion aspirations, without increasing the total credit hours in the program. Since this is unlikely (given constraints imposed by state funding formulas), the development of at least two tracks appears to be a logical solution as long as sufficient faculty are available to deliver such a program.

**Recommendation 3:** The faculty and students in the program would be best served if two tracks were offered: 1) exercise science, and 2) health promotion. In time, if demand is sufficient for both at current or higher total levels (~1,200 students), then separate majors might be considered.

Undergraduate students in ESHP are required to take all but 6 credit hours of electives from departmental offerings. This is suboptimal for students attempting to address hard-science prerequisites needed for acceptance into medical/ clinical training.

**Recommendation 4:** The department should consider allowing students to take all of the electives from programs outside of the department.

The ES program currently appropriately has attained a formal endorsement from the National Strength & Conditioning Association. The American College of Sports Medicine has an accreditation that might be attained.

**Recommendation 5:** The department should investigate the possibility of applying for such accreditation. Although not required, it would enhance the prestige of the degree obtained from the program.

The department currently does not have an accelerated B.S.-to-/M.S. degree program. This is increasingly used across the country as a recruitment tool for graduate students.

Students in the FAU undergraduate program would be able to enroll in a maximum of 12 credit hours of graduate coursework that might be used for dual credit for the two degree programs. On most campuses, tuition fees for these graduate courses are charged at the undergraduate rate. In particular, gifted students who are unclear about their career paths may determine that they wish to continue their education in the ESHP graduate program instead of another allied health field and/or at another university. They already have a substantial advantage over traditional students entering graduate school subsequent to completing their bachelor's degree. Also, transferring 12 credit hours of graduate courses to other institutions may be problematic. These gifted students are typically invited by faculty to apply and many will eventually continue with their medical aspirations. However, a few will gain a greater appreciation for the area of study based on this exposure and will remain in the FAU ESHP graduate program.

**Recommendation 6:** Develop an accelerated B.S.-to-M.S. degree 12-hour option.

Exercise Physiology, Kinesiology, and Health Fitness Testing courses have accompanying lab activities. The laboratory experiences would be more useful to students if performed the semester just preceding the capstone internship experience. The exposure and acquired competence would then occur just prior to them going to the "outside world." Many students will likely feel more confident in their laboratory/testing skills and this will likely reflect more favorably on the FAU ESHP program based on observations of supervisors at internship sites.

**Recommendation 7:** The department should consider deleting the lab portion of selected undergraduate courses in order to cover more conceptual material, and adding a separate lab course in the semester preceding the internship.

The graduate program in Exercise Science & Health Promotion has three tracks: 1) Exercise Physiology, 2) Health Promotion, and 3) Strength & Conditioning. It appears to be well-designed and competitive nationally. Faculty in the respective areas appear to be well qualified to deliver the program. Although three tracks exist in the major, tabular information appears to represent information only for the major. Data acquisition for this and other relevant activities (e.g., thesis or non-thesis, major professor if thesis, time to program completion) for each track may be revealing.

### **Exercise Physiology**

For Exercise Physiology, many students continue elsewhere with doctoral training either in field or in related ones. Masters theses are optional, but the number of them per graduate faculty member in the last couple of years is at or near maximum. Thesis studies in this discipline tend to be complex, thereby requiring substantial faculty oversight. Their quality is such that virtually all are publishable in refereed journals. In order to maintain the integrity of the process with current faculty workloads, an increase in thesis productivity is unrealistic. Faculty would prefer to have more time available to work with graduate students, but the extensive undergraduate involvement precludes this.

**Recommendation 8:** If the institution desires an increase in this type of engagement, then other responsibilities of Graduate Faculty will need to be reduced.

Graduate Faculty members appear universally to desire chairing doctoral committees in a PhD program at FAU, and this is a laudable aspiration toward longer contact with highly-trained individuals, an increase in university prestige, and an increased likelihood of securing external dollars and funding post-doctoral fellowships. In order to bring this about, the department would do well to make infrastructure changes (lower teaching loads, additional research faculty hires, and infrastructure consolidation so as to have the entire research contingent of faculty and students working in reasonably close proximity to each other).

**Recommendation 9:** The phased acquisition of two tenure-seeking biomechanists would greatly facilitate this process and support existing lines of research. These individuals would need laboratory space and equipment startup funding.

### **Health Promotion**

The current Health Promotion master's track is offered exclusively online. This appears to be a reasonable strategy since many graduate students in this area simultaneously hold down fulltime employment. Faculty members in Health Promotion appear quite competent and all have Certified Health Education Specialist (CHES) credentials.

Development of a Master of Public Health graduate program has been espoused. Since no current faculty members have the MPH and/or DPH, multiple new faculty members with one or both of these credentials would likely be required. A School of Public Health was initiated on my campus approximately 10 years ago, and that required a sizable allocation of resources for salaries of faculty and research support personnel and eventually for the accrediting process. The faculty-to-student ratio in our public health programs are much lower than most other programs on campus and are expensive to run. Therefore, an ongoing robust external support effort and success rate are customary and needed if programs are to remain viable. However, on some campuses, the prestige of having MPH/DPH programs overshadows budgetary issues.

**Recommendation 10:** Proceed with caution with regard to proposing a new Public Health degree program unless new sources of substantial and sustained funding are acquired.

### **Strength & Conditioning**

Although it is a worthwhile track of academic training for this major, support for it as well as the level of enrollment is unclear at this time. We assume it is a new offering and understaffed, because it is not currently heavily promoted as a *specialty* on the department web site. The department should consider whether additional faculty members or staff are needed to effectively deliver this program. At the graduate level, the National Strength & Conditioning Association has opportunities for program endorsement in both Clinical and Research areas.

**Recommendation 11:** If one or both of the aforementioned endorsements have been attained, it would be appropriate to communicate that information on the web site. If neither endorsement has been attained, it would be appropriate to apply for it (them).

**Conversion of Department to a School**

Departments of Exercise Science & Health Promotion are increasingly gaining additional autonomy in the U.S. by being converted to Schools or Colleges. In particular, if operating in a College of Education, a change in the Dean could place these programs at a decided disadvantage since they do not involve teacher education. Many ESHP Schools in the U.S. are free standing, but it may be possible for them to operate as part of a larger College, usually some sort of Applied Sciences or Health Sciences configuration.

**Recommendation 12:** Plans should be developed and a timeline established for implementing increased autonomy for this academic unit by granting it School status.