Program Review

Master of Science
Exercise Science

College of Education and Human Services

November 2008

MARSHALL UNIVERSITY

Program Review
Marshall University

Date: September 1, 2008

Program: Master of Science in Exercise Science
Degree and Title

Date of Last Review: November 7, 2003

Recommendation

Marshall University is obligated to recommend continuance or discontinuance of a program and to provide a brief rationale for the recommendation.

Recommendation
Code (#):

1. Continuation of the program at the current level of activity; or

2. Continuation of the program with **corrective action**: Corrective action will apply to programs that have deficiencies that the program itself can address and correct. **Progress report due by November 1 next academic year;** or

3. Identification of the program for **resource development:** Resource development will apply to already viable programs that require additional resources from the Administration to help achieve their full potential. This designation is considered an investment in a viable program as opposed to addressing issues of a weak program. **Progress report due by November 1 next academic year**; or

4. Continuation of the program at the current level of activity, with the designation as a program of excellence (See Series 11 Statement from the Policy Commission); or

5. Discontinuation of the program (Procedures outlined in HEPC Administrative Bulletin 23).

Rationale for Recommendation: (Deans, please submit the rationale as a separate document. Beyond the College level, any office that disagrees with the previous recommendation must submit a separate rationale and append it to this document with appropriate signature.)

_____ Recommendation:	_____ Signature of person preparing the report:	_____ Date:
_____ Recommendation:	_____ Signature of Program Chair:	_____ Date:
_____ Recommendation:	_____ Signature of Academic Dean:	_____ Date:
_____ Recommendation:	_____ Signature of Chair, Academic Planning Committee: (Baccalaureate pgms only)	_____ Date:
_____ Recommendation:	_____ Signature of President, Faculty Senate/ Chair, Graduate Council:	_____ Date:
_____ Recommendation:	_____ Signature of the Provost and Senior Vice President for Academic Affairs:	_____ Date:
_____ Recommendation:	_____ Signature of the President:	_____ Date:
_____ Recommendation:	_____ Signature of Chair, Board of Governors:	_____ Date:

College/School Dean's Recommendation

Deans, please indicate your recommendation and submit the rationale.

Recommendation:

Rationale:
(If you recommend a program for further development identify all areas for specific development; if you recommend a program as a *program of excellence* address all criteria listed in HEPC Series 11)

The Division of Exercise Science, Sport, and Recreation offers the Master of Science in Exercise Science to prepare students for careers in the clinical, community, corporate and commercial settings. Preparation for such careers includes an emphasis on leadership roles and skills that permit one to work with individuals on a continuum extending from the elite athlete to those with chronic disorder/disease that includes the cardiac transplantation patient as well as the recreational athlete and those simply wishing to stay healthy by living sensibly.

The course of study is a two-year program with a 39 semester hour requirement. Full admission requires a 3.00 GPA, an appropriate academic background, personal interview, three letters of reference, GRE, and Graduate College admission. The Exercise Science Program has three (3) program emphases: Clinical Applied, Exercise Physiology, and Athletic Training. The Clinical Applied Area of Emphasis requires completion of a clinical internship. A thesis or internship option is provided in the Exercise Physiology Area of Emphasis. The degree in Athletic Training can be accomplished with a thesis or non-thesis track.

The uniqueness of this program resides in the objective of preparing students for a broad spectrum of careers in health promotion, disease prevention, rehabilitation, wellness, performance enhancement, and research in the clinical, commercial, community, and corporate settings, making them more marketable. Options include careers as clinicians in cardiopulmonary rehabilitation and diabetes management programs, as athletic trainers as well as other allied medical fields: physical therapy, pharmaceutical and pacemaker sales, as pharmacists, as physician assistants, advanced degrees in related doctoral programs, and as physicians.

In the past five years, six faculty members the Exercise Science program have published 2 books, 21 refereed articles, and gave 70 professional presentations. They also hold numerous offices in professional organizations and regularly attend state, regional, national and international meetings. Additionally, they have secured $1,174, 200.00 in external funding to enhance their program.

During the last five years, there have been 81 graduates of the MS in Exercise Science program. Currently, faculty are reviewing the application process for accreditation by the Commission on Accreditation of Allied Health Education Programs [CAAHEP]. Some standards are in place. Following an internship, students take a comprehensive oral examination in the presence of a select faculty committee; a thesis must be defended in similar fashion.

Many exercise Science graduates have completed the requirements for certification as an *Exercise Specialist* by the American College of Sports Medicine, competing very favorably with students from other programs across the country. All of our students are required to be certified as *CPR Healthcare Providers* with *Automatic External Defibrillator* [AED] certification by the **American Heart Association** [**AHA**]. All of our students are required to take ESS 687 *Advanced Cardiac Life Support* [**ACLS**], a preparatory class as part of their curriculum. Recently, all of our students in the *Clinical Applied Area of Emphasis* have also successfully completed **AHA ACLS** class at the Cabell Huntington Hospital and received certification prior to their internship, an important professional achievement and qualification in the clinical setting. Many other graduates have completed this latter certification during internships and on-the-job.

Employer and graduate feedback is extremely positive and the program has a comprehensive assessment system which provides data for the program modification and improvement. The MS in Exercise Science is a healthy program, with increased enrollment, and should continue to be productive in the future.

_____ _____

Signature of the Dean Date

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I. PROGRAM DESCRIPTION:

Exercise Science	MS Degree	Marshall University
Name of Program	**Degree**	**Institution**

Date of last Review: November 7, 2003

PROGRAM NARRATIVE

The Division of Exercise Science, Sport, and Recreation offers the Master of Science in Exercise Science to prepare students for careers in the clinical, community, corporate and commercial settings. Preparation for such careers includes an emphasis on leadership roles and skills that permit one to work with individuals on a continuum extending from the elite athlete to those with chronic disorder/disease that includes the cardiac transplantation patient as well as the recreational athlete and those simply wishing to stay healthy by living sensibly.

The course of study is a two-year program with a 39 credit hour requirement. Full admission requires a 3.00 GPA, an appropriate academic background, personal interview, three letters of reference, GRE, and Graduate College admission. The Clinical Applied Area of Emphasis requires completion of a clinical internship. A thesis or internship option is provided for the Exercise Physiology Area of Emphasis. The degree in Athletic Training can be accomplished with a thesis or non-thesis track.

Research clearly shows that seventy percent (70%) of all premature death and chronic disability could be prevented with appropriate life-style changes. This includes sensible nutrition, exercise, smoking cessation, and related behavioral changes. Such therapeutic lifestyle interventions and risk factor management can significantly reduce all-cause mortality and morbidity from cardiovascular disease, diabetes, osteoporosis, obesity, mental health disorders, and cancer. Our quality of life, as well, can be improved and our chances for longevity increased. Our graduates are becoming major players in an alternative approach to contemporary treatment-oriented health care emphasizing client/patient empowerment with health promotion, disease prevention, and rehabilitation strategies.

The uniqueness of this program resides in the objective of preparing students for a broad spectrum of careers in health promotion, disease prevention, rehabilitation, wellness, performance enhancement, and research in the clinical, commercial, community, and corporate settings, making them more marketable. Options include careers as clinicians in cardiopulmonary rehabilitation and diabetes management programs, as athletic trainers as well as other allied medical fields: physical therapy, pharmaceutical and pacemaker sales, as pharmacists, as physician assistants, advanced degrees in related doctoral programs, and as physicians.

This includes assisting them in developing the clinical and scientific attitudes necessary for success in contemporary allied health careers. A *clinical attitude* includes respect for the client, participant, subject, athlete, or patient under their care. Physician/Scientist Sir William Osler commented, *"Ask not what disease the patient has, but, rather, what patient the disease has."* This attitude applies to the task of assisting athletes with performance enhancement as well as guiding patients with chronic disease through a program aimed at improving their quality of life and chances for survival.

The *scientific attitude* is characterized as a respect for clinical and performance assessment procedures and well-taken data whether they are simple measures of heart rate or more sophisticated medical procedures [e.g., coronary angiograms, ventriculograms]. Each requires thoughtful attention. A final, all-encompassing, objective is the development of careful, thoughtful, thorough, and responsible work habits in the clinical/professional setting. These attitudes transcend gender, race, and age and are the ultimate expression of diversity.

III. PROGRAM STATEMENT

A. ADEQUACY

1. Curriculum

The Exercise Science program has three (3) program tracks:
(1)Clinical Applied Area of Emphasis;
(2)Exercise Physiology Area of Emphasis;
(3)Athletic Training Area of Emphasis.

Here are some learning tasks for Exercise Science Masters candidates:

1. Learn and perform policies and procedures for ambulatory Phase I, Phase II, and Long-term cardiac patients; manage their therapeutic lifestyle interventions for cardiovascular and related [e.g., diabetes mellitus] disorders.
2. Observe imaging at rest and with exercise stress, coronary catheterization, angiography, ventriculography, coronary bypass graft [CABG] surgery, and percutaneous transluminal coronary angioplasty [PTCA] procedures. Understand and interpret angiograms and ventriculograms.
3. Learn and perform cardiac patient risk stratification that includes ventricular function, myocardial ischemia, and dysrhythmia variables, including the Lown Classification System. Consider creatinine, blood glucose, HbA_{1C}, and related clinical variables, including blood counts for the formed elements and related clinical variables.
4. Understand and apply contraindications to exercise testing and exercise therapy.
5. Receive training in prepping patients for testing [i.e.,12 lead EKG, XYZ Frank leads, if possible] and exercise therapy [i.e., bipolar lead setup]; assist with multi-stage exercise testing.
6. Develop skills with metabolic assessment of human performance and physical work capacity [PWC] as well as related clinical variables.
7. Develop skills with human performance assessment and performance enhancement.
8. Learn and teach exercise prescription for all modalities. Develop skills for managing patients as they progress through an exercise program. These include preparing patient progress reports and SOAP notes.
9. Learn and evaluate lipid profiles to include total serum cholesterol, triglyceride, and lipoprotein fractions. Include apoproteins and particle density, if possible, as well as electrophoresis phenotypes, when possible.
10. Develop skill in blood pressure assessment as well as teaching patients heart rate assessment skills.
11. Develop background and skills in risk factor awareness and therapeutic lifestyle management classes [e.g., lipids, HBP, sedentary lifestyle, smoking cessation, obesity, diabetes, family history, stress, medication awareness, etc.].
12. Assist physicians with physical examinations.
13. Develop EKG reading skills relative to AV blocks, bundle branch blocks, dysrhythmia, preexcitation syndromes [e.g., WPW], contour changes, ventricular hypertrophy. Assess patient heart rates, pulse quality, routinely and accurately.
14. Understand clinical procedures for determining the occurrence of a myocardial infarction: symptoms, history, enzymes, and EKG changes. Be informed of

contemporary trends in the classification of myocardial infarction.
15. Understand elements of a medical profile and relevance to case study analysis and development.
16. Develop budgeting, business, and logistical skills as well as personnel management and evaluation perspectives.
17. Develop an awareness of Advanced Cardiac Life Support [ACLS] perspectives and procedures. Pursue ACLS certification.
18. Develop an appreciation for "Doctors' Orders" and standing orders relative to ACLS and clinical procedures, including exercise prescription, etc.
19. Develop a ***clinical attitude*** that includes respect for the patient:

    "*Ask not what disease the patient has, but, rather, what patient the disease has." Sir* William Osler [physician and scientist]
20. Develop a ***scientific attitude****,* respect for clinical assessment and data, respect for well-taken heart rate and blood pressure measures as well as the most sophisticated medical procedures.

    A final, all-encompassing, task is the development of careful, thoughtful, thorough, and responsible attitudes and work habits that permit consideration of clinical tasks with carefully structured strategies.

Required courses, restricted electives, and related requirements for each area of emphasis are detailed in **Appendix I**. **Table 1** summarizes faculty data.

a. **Clinical Applied Area [CAA] of Emphasis**:

Graduates are employed in health promotion, disease prevention, rehabilitation, wellness and related research positions. In addition to their conventional employment in the clinical setting, students in the CAA have gone on to complete doctorates – including the Pharm. D. and Ph.D., enter medical school and become physicians, study to become physician assistants [PA], complete requirements for registered dietician [R.D.] certification, become physical therapists [PT], join the pharmaceutical and pacemaker industries, qualify as electrophysiology specialists in cardiology, and complete the MBA to become clinical administrators and government health care administrators. The clinical orientation in these settings requires student practitioners to complete a six credit hour internship in a clinical setting [480 hours] and take a comprehensive oral examination at the completion of their studies.

b. **Exercise Physiology Area [EPA] of Emphasis**:

Graduates have long-term goals of continuing their education to the doctorate level and entering research-oriented careers. In recent years, we have seen a trend with some of these graduates entering clinical and administrative wellness positions as well. EPA students have also gone on to receive MBA's as well as enter the pharmaceutical and pacemaker industries. This area offers a choice between completing a six credit hour thesis and successfully defending it in an oral examination format or the satisfactory completion of a six credit hour internship in a clinical setting [480 hours] and taking a comprehensive oral examination to complete their course of study.

c. **Athletic Training Area [ATA] of Emphasis:**

This area is designed to meet the needs of the clinical, high school, middle school, college, professional, industrial, and independent athletic trainer. The program is designed to build on existing knowledge and skills acquired by students in their undergraduate programs. The student's academic advisor will design a course of study based on one's background and career objectives. The emphasis in athletic training can be accomplished by a thesis or non-thesis track. Successful completion of an oral comprehensive exam/thesis defense is required for graduation. Six hours of the degree

may be fulfilled with coursework outside the Division of ESSR.

2. Faculty:

There is demonstrable evidence of faculty achievement and scholarly activity. They have published 21 articles, published 2 books, made 70 professional presentations, and attended an impressive number of professional development activities [**Appendix II**] in the past 5 years. Faculty has also accrued **$1,174,200** in grants and contracts to support the Program and related research.

Table 1. Five-Year Descriptive Data (2003-2007)

Name	University Rank	Degree	Tenure	Grad/Faculty Status	Pubs 5 YR.	Talks 5 YR	External Funding
William P. Marley	Professor	Ph.D.	Yes	Full	13	27	$709,000
Charles E. Arnold	Assistant Professor	Ph.D.	No	Full	1	2	√
R. Daniel Martin	Professor	Ed.D.	Yes	Full	1	15	$305,200
T. Jeff Chandler	Professor [2003-06]	Ed.D.	Yes	Full	4	4	$160,000
Gary McIlvain	Assistant Professor	Ed.D.	No	Associate	3	15	√
Ronda Sturgill	Associate Professor	Ph.D.	No	Associate	2	7	√
				TOTALS	**23**	**70**	**$1,174,200**

The Exercise Science Graduate Program faculty [**Table 1**] consisted of three [3] full professors, an associate professor, and two [2] assistant professors. Three were tenured and three are preparing for tenure application. Their *Faculty Data Sheets* are listed in **Appendix II**. The curriculum includes successful collaboration with faculty in the School of Medicine, Educational Statistics, Counseling, Biological Sciences, and the School of Business for courses and clinical practicums. Students have also taken training courses (e.g., emergency medical technician, advanced cardiac life support [ACLS], electrocardiogram beginner and advanced levels) at Cabell Huntington Hospital.

Dr. Marley, Professor and Director of Human Performance Laboratory Programs that includes the Graduate Exercise Science Program, has published more than 75 professional articles, a textbook that was endorsed by the American College of Sports Medicine, and numerous handbooks and technical manuals. In the past five [5] years, he has published 13 articles and presented 27 professional papers. The papers have been presented at international, national, regional, and state conferences. He was recognized with a **SPECIAL RECOGNITION CAREER SERVICE AWARD** at a national nursing conference in 2007.

Previously, he has been accorded **Fellow** status by both the American College of Sports Medicine [FACSM] and the American Association of Cardiovascular and Pulmonary Rehabilitation [FAACVPR] and served on the Board of Directors for the latter Society. Dr. Marley has also received the prestigious ***Healthy American Fitness***

Leader Award, presented by the President's Council for Physical Fitness and Sports for, *"…his significant contributions to the promotion of health and fitness for the benefit of individuals, communities, and the country."* He has received a **Career Achievement Award** from the American Heart Association (AHA) for his many contributions to the AHA including serving as President of the Cabell-Wayne (WV) Regional Heart Association for five (5) years. He has also been recognized by the American Diabetes Association in its publication, "*Who's Who in Diabetes Treatment, Education & Research"* for the past fifteen [15] years.

Dr. Marley has been recognized nationally and internationally for his professional accomplishments in health promotion, disease prevention, cardiac rehabilitation, and cardiovascular medicine. He has published and lectured extensively and introduced new clinical management procedures and concepts into clinical practice. He has played an important role in the development of position papers and clinical practice guideline publications as well as chairing national symposia in cardiac rehabilitation and preventive medicine. His external funding for the past 15 years totals almost 2 million, $1,849,800. A listing of Dr. Marley's externally funded contracts and grants for the past five [5] years follows:

Project Director and Principal Investigator

- Cabell Huntington Hospital/MU Medical Center Rehabilitation Program [CHH/MUMCRP: 1997 – present]

This contract was initiated in 1997. It generates $42,000 in revenue annually and supports The Diabetes Exercise Center [DEC], Cardiac Rehabilitation Program [CRP}, Pulmonary Rehabilitation Program [PRP], and Chronic Pain Management Program [CPMP], including the Senior Graduate Assistant position. The 5-year revenue, then, for this contract amounts to $210,000.

The contract was renegotiated 2 years ago due to administrative and staffing changes at CHH. Salaries for the 2 Clinical Coordinators, a Registered Respiratory Therapist RN, and Physical Therapist are now covered by this contract, projecting the amount of $222,000 annually, approximately $444,000 for the past 2 years.

- Interim President Farrell's $30,000 grant permitted complete renovation of the Rehabilitation Center and Human Performance Laboratory classroom.

- Johnson & Johnson Lifescan Clinical Site [1995 to present]

As a recipient of this competitive honor, the HPL receives blood glucose strips, lancets, glucometers, and related technological support as well as educational materials and support. This award amounts to $4,000 annually and $20,000 for the past 5 years.

- The CHH Ladies Auxiliary graciously provided a $5000 grant for the purchase of equipment in the Diabetes Exercise and Cardiac Rehabilitation Center.

The DEC is one of a kind in the country and is part of the CHH Diabetes Treatment Center, an ADA certified center. The CRP/PRP continues to maintain its national certification by the AACVPR, having been the first such program in West Virginia to be so certified. The DEC, CRP/PRP, and CPMP accumulate more than 10,000, 3,000, and 3,000 *patient contact-hours*, respectively, on an annual basis [**Table 1A**]. These programs also provide clinical practicum and internship opportunities for graduate

students in Exercise Science, Physical Therapy, Athletic Training, and 3rd & 4th year medical students. The Human Performance Laboratory [HPL] is one of a few labs in the country that provides students with opportunities to work under supervision in the clinical setting. This means they learn to develop exercise prescriptions, take BP's, read EKG's, check blood glucose readings, and make appropriate adjustments. These programs require mature and responsible behavior in managing patients with multiple medical problems. The opportunity to assist with patients in such a setting is immeasurable. Students benefit greatly by directly applying knowledge they have gained in the classroom.

Table 1 A. CHH/MUMCRP Patient Therapeutic Intervention Contact Hours

Program	Annual Contact Hours	5-Year Totals
DEC	**10,000**	**50,000**
CRP	**3,000**	**15,000**
CPMP	**3,000**	**15,000**
Totals:	**16,000**	**80,000**

Dr. Marley serves on the **Admissions Committee** for the **Marshall University Joan C. Edwards School of Medicine.** He is also a *Resident Supervisor* for the *Primary Care Sports Medicine Fellow* in the **Marshall University Joan C. Edwards School of Medicine.** This Fellow is given the opportunity to observe the role of exercise therapy and related therapeutic lifestyle interventions in the treatment of patients with diabetes and cardiovascular disease as well as sports medicine applications in screening and treating athletes. The Fellow also assists the Cabell Huntington Marshall University Medical Center Rehabilitation Program with medical coverage for the Diabetes Exercise Center and Cardiac Rehabilitation Phase II and Phase III – Long-term Program. This includes assisting with multi-stage exercise testing and management of medical emergencies and patient care. Consultation and instruction is provided by the Resident Supervisor and Human Performance Laboratory staff.

Dr. Chandler is currently Chair of the Department of Health, Physical Education, and Recreation, Jacksonville State University, Jacksonville, Alabama. He resigned his position as Chair of Exercise Science, Sport, and Recreation [ESSR] at Marshall in Spring 2006 to accept his current position. He is Editor-In-Chief of the *Strength and Conditioning Journal* and a nationally recognized expert in the field, having been certified as Strength and Conditioning Specialist with Distinction [CSCS*D]. He has also been accorded Fellow status by the American College of Sports Medicine [FACSM]. As examination of his Faculty Data Sheet in Appendix II shows, he has an extensive record of research, professional presentations, and publication, including two recent textbooks. The courses he taught, particularly ESS 670 [required] and ESS 642 [restricted elective], are important curricular components. He also served as a valuable resource for thesis and internship advisement. Another valuable contribution to the Program was his guidance and advice to those students preparing for the certification, Certified Strength and Conditioning Specialist [CSCS], an increasingly attractive option for our students; we have been unable to obtain the services of a faculty member with similar credentials.

Dr. Martin is a Certified Athletic Trainer who is Director of the Athletic Training

Education Program at Marshall University. His program has been certified by the prestigious National Athletic Trainers' Association. In addition to a full teaching and advising schedule in the Athletic Training curriculum, his responsibilities have included supervision of an extensive network of clinical internship sites where his graduate and undergraduate students are assigned for their clinical experiences. Dr. Martin has been successful in obtaining $305,000 in funding from four outside agencies to support this network. He is an experienced sports medicine clinician who is also professionally active as a speaker and received the West Virginia Athletic Trainer of the Year Award in 2005. His contributions to the Exercise Science Graduate Program include teaching ESS 687, Advanced Cardiac Life Support, HE 540 and HE 640, Level 1 and Level 2 Health Assessment, respectively, and assisting with final comprehensive oral examinations. The Exercise Science Program and HPL also collaborate with Dr. Martin in providing clinical rotation experiences for his Athletic Trainer students, an important part of their education and certification process.

Dr. Martin became Chair of the Division of Exercise Science in Spring 2006 and has served in that capacity to the present. He left Marshall University in July 2008 to become Chair of the Department of Exercise Science at West Virginia Wesleyan College.

3. Students:

a. Entrance standards: Full admission to the Master of Science program for Exercise Science requires a 3.00 GPA, completion of the GRE, a personal interview, three (3) letters of reference, and admission to the Marshall University Graduate College.

b. Entrance abilities: Students are required to take the GRE. Standardized tests for identifying the specialized abilities of incoming students are not presently available. Please note that the values reported for spring 2005 are based on the test scores of two students. Table 2 below lists GRE and GPA entrance scores.

Table 2. Entrance Abilities: GRE/GPA Score Summaries

Semester	N	GRE Verbal	GRE Quant	GPA
Spring 2008	4	332.5	392.5	2.94
Fall 2007	13 [2 no GRE]	410.0	506.4	Not available
Spring 2007	1	310.0	620.0	3.72
Fall 2006	15	363.3	408.7	3.02
Spring 2006	1	410.0	740.0	Not Available
Fall 2005	14	380.7	490.7	2.75
Spring 2005	3 [1 no GRE]	335.0	330.0	2.99
Fall 2004	8	370.0	501.3	2.77
Spring 2004	3	383.3	590.0	2.94
Fall 2003	13	370.8	433.8	3.23

c. Exit Abilities: There is no standardized licensure procedure for Exercise Science Program graduates. Students are, however, required to take a comprehensive oral examination in the presence of a select faculty committee following completion of their

course of study and their internship; those writing a thesis must defend their completed study in similar fashion.

Table 2A. Exit Abilities: GPA Score Summary

Academic Year	N	GPA
2007-08	15	3.61
2006-07	26	3.59
2005-06	18	3.59
2004-05	10	3.70
2003-04	12	3.63

Although there are no existing national standards for Exercise Science graduates, many have completed the requirements for certification as *Exercise Specialist* by the American College of Sports Medicine, competing very favorably with students from other programs across the country. All of our students are required to be certified as *CPR Healthcare Providers* with *Automatic External Defibrillator* [AED] certification by the **American Heart Association** [**AHA**]. All of our students are required to take ESS 687 *Advanced Cardiac Life Support* [**ACLS**], a preparatory class as part of their curriculum. Recently, students in the *Clinical Applied Area of Emphasis* have also successfully completed the formal **AHA Advanced Cardiac Life Support [ACLS]** class and certification prior to their internship, an important professional achievement and qualification in the clinical setting.

It is also important to note that our graduates have been successful in establishing careers in a variety of medical and allied medical and health care areas. This includes seven [6] physicians/physicians-in-training. See **Table 8** for an extensive listing of their achievements.

4. Resources:

a. Financial:

Funding for the Exercise Science program is provided from an allocation received by the Human Performance Laboratory Programs from the College of Education and Human Services. Graduate Assistantship tuition waivers are funded by the Marshall University Graduate College. A full-time faculty position was awarded to the program at its initiation by the University.

Supportive funding from external sources has also been obtained; revenue derived from the Cabell Huntington Rehabilitation Program contract discussed in **Section A. 2**. is dedicated to maintaining Human Performance Laboratory Program facilities, equipment, and services, accounting for $36,000 in external funds annually. These funds support purchases of exercise and clinical laboratory equipment, telecommunications and computer support as well as educational facilities in the HPL classroom. This contract also funds two (2) graduate assistantships, one for $6,000 and another for $4,000. The Johnson & Johnson Lifescan Clinical Site grant provides approximately $4000 annually to our Diabetes Exercise Center in the form of blood glucose strips, lancets, glucometers, and related technological materials as well as educational materials and support.

Should this program be terminated, the allotted full-time position would be eliminated as

would the commitments of the other four (4) faculty positions. The commitments of Cabell Huntington Hospital/MU Medical Center Staff, including two [2] Clinical Exercise Physiologists, a Registered Nurse, Registered Respiratory Therapist, Registered Dietitian, and Physical Therapist that staff Human Performance Laboratory Programs funded by Dr. Marley's contract with Cabell Huntington Hospital and Marshall University Medical Center would be lost. Five Graduate Assistants would be denied the opportunity to obtain valuable clinical experience and achieve their educational goals.

The external funding supporting the Diabetes Exercise and Cardiac Rehabilitation Center [DEC], Pulmonary Rehabilitation Program, and Chronic Pain Management Program would be lost to the university as would the Tri-State community services amounting to a total of more than 16,000 patient contact hours annually.

Collaborative support efforts with the Cabell Huntington/MU Medical Center Diabetes Treatment Center, Cardiac Rehabilitation Program, and Chronic Pain Management Program would be eliminated. This includes lectures to patients and support groups.

The Marshall University Sports Medicine Department would be denied a training site for their Sports Medicine Fellow and they would no longer have HPL support in screening athletes with potentially serious medical concerns. The latter service would be denied to the Tri-State sports medicine community as well. The Athletic Training Program would be denied an important clinical site for their students and an internship site would no longer be available for undergraduate and graduate Exercise Science students.
Similarly, commitments to one medical contract and one grant could not be kept. More importantly, an established program with successful graduates making substantial contributions to medical and allied health in the region and in an ever expanding area across the country would be lost.

b. Facilities:

The Human Performance Laboratory and Exercise Physiology Laboratory play integral roles in the Exercise Science program with their state-of-the-art facilities and equipment. Students can participate in all phases of medical profile and performance assessment testing. This includes opportunities to assist in managing patients being treated for diabetes, cardiovascular disease, chronic lung disease, and chronic pain management as well as individuals seeking fitness testing and personal exercise program counseling and performance enhancement advice. Management strategies and techniques include multi-stage exercise testing, blood glucose measures, blood pressure assessment, EKG monitoring and analysis, lipid profiles and related bloodwork, anthropometric assessments, and metabolic measures to determine physical work capacity.

With the assistance of the College of Education and Human Services and the University Computer Center, a Computer Learning Center has been established in the HPL for student and staff use. Additionally, a website - www.marshall.edu/coehs/hpl - has been established and an audiovisual system with an online Internet computer has been installed in the HPL classroom; this system includes DVD, VCR, Power Point, and Sympodium capabilities. These projects have had significant impacts on HPL programs and in the classroom. The audiovisual system installed in the HPL classroom was supported by a grant from Interim President Michael Farrell.

5. Assessment Information:

a. A summary of the following elements is provided with the **Chart 1 Assessment Summary** attachment in the **Appendix:**

- ☐ student learning outcomes
- ☐ responsible person
- ☐ assessment tools/measures
- ☐ standards/benchmarks
- ☐ results/analysis
- ☐ action taken

a.1. Assessment of Student Outcomes [Chart I]

Chart I Assessment Summary in the **APPENDIX** provides a detailed summary of **Student Learning Outcomes**. **Assessment Tools, Standards and Benchmarks, Results and Analyses**, and subsequent **Actions Taken.** An examination of **7. Technical Skills** in **Chart I** demonstrates one application of an outcome assessment:

Verification procedures [**Assessment Tool**] for teaching students procedures for blood pressure [BP] measurement utilize a teaching stethoscope that permits faculty to monitor the accuracy of student BP measures. A *Verification record* [**Standards/ Benchmarks**] is maintained until an appropriate *Clinical skill level is achieved* [**Results/Analysis**]. When students qualify to monitor BP, they are given a *Clinical assignment* [**Action Taken**] as a staff member.

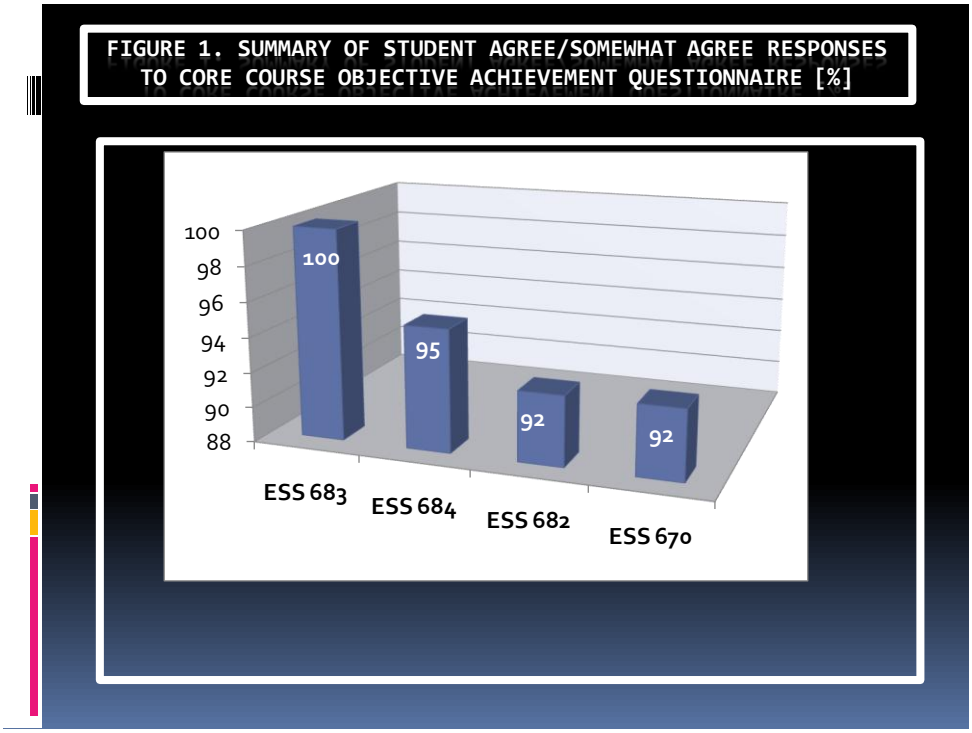
a.2. Student performance is also assessed in the following ways:

(1) Routine examinations and writing assignments in each course.
(2) Students are evaluated on their performance in research projects, class workshop assignments, class presentations, independent studies, practical exams, class staff meetings, case study presentations, presentations to their classmates and to Diabetes Exercise and Cardiac Rehabilitation Program patients, to medical center programs, and community groups.
(3)Their performance in the internship and thesis preparations are major considerations.
(4) A student's performance in his/her assignment as a Graduate Assistant is observed. Particular attention is devoted to their progress in developing the *clinical attitude* and the *scientific attitude* as discussed in the introductory narrative.
(5) Students are required to have a minimum 3.0 GPA prior to their internship assignment.
(6) A comprehensive oral examination must be passed in the presence of a graduate faculty select committee prior to graduation.

a.3. Program quality is assessed in the following ways:

(1) Annual Review by the MU Office of Program Review and Assessment.
(2) Students evaluate professors at the completion of each course.
(3) Students evaluate course content at the completion of each course.
(4) The Division Chair evaluates faculty teaching advising, scholarly activity, university service, and community service annually.
(5) Dialogue with program graduates and their employers as well as extensive input from internship supervisors and a growing network of ES program graduates permits feedback for evaluating program content and effectiveness.
(6) Involvement with the Centers for Disease Control, the American Association for Cardiovascular & Pulmonary Rehabilitation, American Diabetes Association, the American College of Sports Medicine, the National Athletic Trainers Association, the American Heart Association, and collaboration with the conference planning committees and grant applications for the College of Health Professions keeps the faculty apprised of clinical standards and guidelines for excellence in medicine and allied health that includes health promotion, disease prevention, and rehabilitation.
(7) Our involvement with the Diabetes Treatment Center Education Program includes the exchange of speakers for our respective programs and for Grand Rounds.
(8) A systematic review of the medical literature permits us to be informed of current medical opinion and incorporate some into the program [e.g., Adult Treatment Panel III, The Metabolic Syndrome, The JNC VIII Report for BP classification is anticipated].

a.4. Core course objective achievement is assessed in the following ways: Curriculum core course objective achievement is assessed. Student responses are especially valuable; they provide insights to learning objectives not available from University surveys. See **Tables 2B, 2C, 2D,** and **2E** in **APPENDIX IX** and **Figure 1** below for this information. These data provide confirmation when we are on track with



our course content and learning strategies. Moreover, these data give us insights into course and program revision considerations.

b. How assessment data are used to improve program quality:

(1) An ongoing program of self-appraisal by the faculty includes verbal and written observations by students during exit interviews as well as by internship supervisors and the other sources noted in Sections 5.a. and 5.b. Four [4] specific examples from the past 5 years illustrate direct applications for improving program quality. They include:

I. The Human Performance Laboratory Internet Website: a work in progress
II. A Sympodium Interactive Pen Display was recently added to the state-of-the-art audiovisual unit in the HPL classroom that already includes DVD/VCR and Power Point adaptations with its Internet access
III. The application of innovative teaching strategies
IV. Funding of a graduate assistant position in addition to the already established Senior Clinical Exercise Physiologist [CEP] Graduate Assistant position.

I. Human Performance Laboratory Website
http://www.marshall.edu/coehs/hpl

This site has been developed for program promotion, student recruitment, and instructional purposes; it is always a work in progress – the most recent revision was on July 15, 2008. Extensive efforts have been directed to digital imaging and editing that includes both still and moving image clips. The graduate exercise science program is

listed and discussed along with primary program objectives. The Recent Graduate section serves as an Alumni networking tool. Medical and allied healthcare professionals as well as students from across the USA and across the world have viewed this page.

Philosophical professional perspectives are also presented. Other items include site and program overviews, a contracts and grants section with a special section illustrating our American Diabetes Association certified Diabetes Exercise Center, selected publications and professional presentations, and a listing of recent master's graduates. Some images illustrate our Cardiopulmonary Rehabilitation Program that is certified by the American Association of Cardiovascular and Pulmonary Rehabilitation.

Links have been established with medical, professional, educational, and scientific organizations; they can be used by students for class projects. This site is listed at: **http://www.marshall.edu/coehs/hpl**

We were honored recently by the Joan C. Edwards Marshall University School of Medicine Biomedical Sciences Program. They have included our website as a link to their Science • Technology • Engineering • Mathematics [**STEM**] MU Graduate Programs site: **http://www.bms.marshall.edu/stem/default.aspx** .

Viewers can communicate with Dr. Marley through an instant email function. Here are selected comments on the website from questionnaire responses by recent graduates:

- ☐ "I checked out your website. It really shows off the program and facilities well. I was really impressed with the pictures, videos, and educational material. The new and improved classroom really looks phenomenal."
- ☐ "I like the improved website. Very modern and 'up-to-date' looking."
- ☐ "The HPL website looks amazing….Hope all is well, keep up the good work."
- ☐ "Nice website, Dr. Marley."

II. Installment of a *Sympodium Interactive Pen Display* enhances the teaching effectiveness of the state-of-the-art audiovisual unit with on-line Internet computer access, DVD, VCR and Power Point applications in the HPL classroom. This classroom is used by graduate students as well as diabetes, cardiac, and pulmonary patients. The classroom is also used for Grand Rounds and Tri-State Society for Endocrinology and Metabolism seminars.

III. Development and incorporation of new and innovative teaching strategies and instructional technology into existing courses

- ✓ Use of innovative computer laboratory and instructional units in ESS 670, 682, 683, 684, and 685, including Internet cardiology quizzes.
- ✓ Individual student and student team Power Point presentations.
- ✓ Unique workshop formats that permit students to learn problem-solving and critical thinking principles in the clinical setting with carefully structured strategies in a team-oriented atmosphere.

IV. Senior Clinical Exercise Physiologist [CEP] GA and additional GA position
The $6,000 Senior GA position is funded by Cabell Huntington Hospital [CHH] and is awarded on a competitive basis. An additional GA position was supported by funds from the Cabell Huntington Hospital Rehabilitation Program contract in the amount of $3,300. The Senior GA stipend is greater than the usual amount awarded to our students and Dr. Marley negotiated it with CHH in an effort to counter the loss of highly qualified students applying to our program. We have lost several students to ostensibly more prominent universities because they obtained assistantships with stipends of

$10,000 or more. It should be noted that our students have competed exceptionally well with graduates of these and other institutions across the country for internships, professional positions that include medical school, ACLS certification, and American College of Sports Medicine certification [**Tables 7, 8,** and **9**].

c. Graduate and Employer Satisfaction:

The curriculum received strong support in questionnaire feedback from both graduates and their employers. Our report documents the rigor and effectiveness of the Graduate Exercise Science Program with both hard data and anecdotal responses. Graduates are achieving professional success, moving into positions of responsibility and assuming professional leadership roles.

Graduates:

Responses from 95 students who have graduated during the past 15 years indicated that 95% of them felt they were, "significantly well-prepared/ well-prepared," by their graduate curriculum and related experiences in the Exercise Science Program [**Table 3**]. These graduates have competed successfully with candidates from other universities for professional positions, advanced graduate degrees, medical school, physician assistant programs, physical therapy school, and other allied professional careers regionally and across the country [See **Table 8. Current Positions for Exercise Science Master's Graduates.**

Table 3. How Well Were You Prepared for Employment by the Exercise Science Curriculum? [N = 95]

Significantly Well Prepared	Well Prepared	Marginally Prepared
55	35	5

Students who rated themselves "marginally prepared" by the program for their current profession did so primarily because they changed careers. In every case, however, their training in the Graduate Exercise Science Program curriculum set the stage for and provided the opportunity for their new careers in allied health professions:

- ✓ Pharmacy [Pharm. D.] at West Virginia University
- ✓ Cardiology Programmed Electrophysiology Specialist
- ✓ Physician Recruiter, Healthcare Provider Corporation
- ✓ Elementary Physical Education Teacher
- ✓ Athletic Trainer in a Physical Therapy Clinic

Our students are our best program recruiters. Their personal example as role models and their belief in our preparation for the profession sustain the program.

Employers:

One of our most useful assessment tools for determining program effectiveness and the quality of our graduates is the *Internship Evaluation Form*. It provides a wealth of information that is useful in program development as well as the counseling and guidance of our students. **Table 4 [APPENDIX IX]** provides a summary of the number of graduate internships completed in the past ten (10) years. Every student, with two [2] exceptions, was graded either Superior or Definitely Above Average, the two [2] highest ratings on the following item:

"**OVERALL QUALITIES:**
OVERALL PERFORMANCE is your general evaluation of the intern's work as it relates to their total job performance."

With one exception, every internship supervisor also answered the following question In the affirmative:

Based on your association with this student, would you consider recommending him or her for employment if a position were available in your agency? The answer to this question assumes no commitment on your part. It is merely a part of our evaluation process.

COMMENTS FROM INTERNSHIP SUPERVISORS:

1. A Director of a large Wellness and Preventive Medicine Center at a major medical center in Ohio:

"In my years in the profession I have had the opportunity to work with Exercise Science interns from Marshall University, Morehead State, Ohio State University, the University of Kentucky, Ohio University, and other institutions. Marshall students have consistently demonstrated a level of preparation and professionalism that surpasses these other universities."

2. A Director of Cardiac Rehabilitation at a major medical center in West Virginia:

"We greatly appreciate the help that Marshall graduate students have provided to our program and we have hired many of them! They come ready to learn with a strong theoretical background – the internship allows them to gain the practical skills they need to be a strong employee in any cardiopulmonary rehabilitation program."

3. A Director of Wellness and Preventive Medicine Programs at a major medical center in Virginia commented:

"The one graduate student I brought on was intelligent, well-prepared, and had a sound clinical foundation…."

In many instances, internship site supervisors have been instrumental in obtaining employment for our interns, either at their center or facilities and institutions with whom they are affiliated. Many of these supervisors have become valuable resources, both for employment of our graduates and as an **informal advisory board** for the Exercise Science program. Some serve in another valuable role as guest lecturers, providing invaluable insights and guidance to our students as they prepare to launch their professional careers. As well, our graduates now compose an extensive network for internship and employment contacts. Many times, we are informed of opportunities before they are released for advertisement.

Table 5 summarizes 31 responses to our Employer Survey. Their responses to the question, "How do you rate the overall quality of these graduates in your employment during the past five [5] years?" are summarized in **Table 5.** Ninety -seven [97]% of the respondents rated our students **Above Average/Superior**; 48% rated them **Superior.** The **academic preparedness** of these same students for employment [**Table 6**] was

Table 5. Quality of MU Exercise Science Graduates In Your Employment

Average	Above Average	Superior
1	15	15

judged as **Significantly Prepared** to **Extremely Prepared** by 27 of 31 [87%]

respondents to our employer survey. The student rated "very unprepared" was considered of "Superior" quality, with no explanation given for the disparity. This may have been an employer of one of our 4 students changing careers discussed earlier.

Table 6. How Well Were MU Exercise Science Graduates Prepared for Employment

Very Unprepared	Somewhat Prepared	Significantly Prepared	Extremely Prepared
1	3	10	17

d. Attach the previous five years of evaluations of program annual assessment reports provided by the Office of Assessment. The previous five years of annual program assessment evaluation reports provided by the Office of Assessment are attached at the end of this report.

6. Previous Reviews:

1) Our 2003 Board of Governors Report resulted in the University System of West Virginia Program Review Committee recommending:
   "Continuation of the program at the current level of activity, with the designation as a program of excellence."
2) Our 1998 Program Review Board of Governors Report resulted in the University System of West Virginia Program Review Committee approving continuation of the Graduate Exercise Science Program. Dr. Robert F. Edmunds, Coordinator, Program Review and Assessment, stated
   "The department is commended for an excellent assessment program."
3) Our 1993 Program Review Board of Governors Report resulted in the Graduate Professional Degree Program Review Committee for the University System of West Virginia approving continuation of the Graduate Exercise Science Program. Dr. Bruce C. Flack, Director of Academic Affairs, stated
   "The committee concurs with the institutional recommendation to continue at the current level of activity. The Division is commended for providing a well prepared report."

7. Strengths/Weaknesses:

a. Strengths:

Over ninety [90] graduates responded to Dr. Marley's survey questionnaires; this included a mailed hard copy survey, a program exit survey, an email electronic survey, and phone interviews . Graduates were requested to, "Please identify aspects of the Exercise Science Program that <u>were the most valuable</u> in the academic preparation for your professional position. This could include specific courses, an internship, graduate assistantship experiences, research, faculty or other items." **Tables 6A** and **6C [APPENDIX IX]** summarize comments from their **Exit Survey** responses. **Tables 6B** and **6D [APPENDIX IX]** summarize mail, electronic, and phone survey responses.

The curriculum is achieving its objectives of preparing students for careers in the clinical, community, corporate and commercial settings and enabling them to achieve

success in their allied health careers. Their positions include health promotion, disease prevention, rehabilitation, wellness, and related research projects in allied health. Strong documentation from medical directors, clinical directors, administrators and internship supervisors indicates that employers are impressed with the quality of our students - they have demonstrated good clinical knowledge and preparation compared to master's level graduates from other programs they have interviewed.
The Director of the largest cardiac rehabilitation program in this region, Charleston Area Medical Center, has hired eight [8] of our graduates and requests three (3) interns each semester because he is impressed with the quality of our Exercise Science Program graduates. He is pleased with their responsible attitude and finds them well-prepared and knowledgeable. He recommends them highly to other cardiac rehabilitation programs when he cannot offer them employment or provide them with an internship.

As witnessed by the faculty credential forms, students receive instruction and guidance from well-prepared and highly trained faculty and benefit from an agreement with the School of Medicine that permits a Sports Medicine Fellow to serve as Medical Director of the Human Performance Laboratory (HPL) and Exercise Physiology Laboratory (EPL). The Exercise Science program includes these two well-equipped laboratories with state-of-the-art equipment. One lab (EPL) specializes in metabolic measures and research that includes work with fitness, body composition, obesity, and performance enhancement. The other lab (HPL) specializes in medical profile testing, cardiovascular and metabolic research, and includes a diabetes program, cardiac rehabilitation program, pulmonary rehabilitation program, and chronic pain management program supported by a contract with the Marshall University Medical Center and Cabell Huntington Hospital. Students gain valuable experience assisting in these programs.

b. Weaknesses:

Similarly, the questionnaire cited in 7.a. above included responses to,"What are some of the aspects of the graduate program which could be modified/improved?" More than ninety [94] graduates responded. This could include specific courses, an internship, and graduate assistantship experiences, research, faculty, or other items.

Tables 6C and **6D [Appendix IX]** summarize responses relevant to suggestions for program modifications/improvements with responses. In brief, a synthesis:
(1) A need for more and varied clinical experiences in addition to the internship.
Our contract with Cabell Huntington Hospital and the Marshall University Medical Center provides for a lease agreement that supports the Diabetes Exercise Center [part of The Medical Center Diabetes Treatment Center – certified by the American Diabetes Association], Cardiac Rehabilitation Program, and Pulmonary Rehabilitation Program [both are certified by the American Association for Cardiovascular & Pulmonary Rehabilitation], and Chronic Pain Management Program. These programs provide substantial clinical observation opportunities for our students; these opportunities are not available during class time, but can be requested and scheduled.
(2) A need for more experience in exercise testing and performance assessment.
Staff members have been assigned to provide opportunities for students to remedy this concern. A course, ESS 601, was added and ESS 683 provides more emphasis in these areas. External funding has permitted the purchase of a state-of-the-art EKG and compatible programmable treadmill, an EKG station for monitoring eight [8] patients simultaneously, and an excellent rehabilitation exercise facility with a state-of-the art oximeter, and blood glucose monitoring technology. We have also purchased the Orion Outcome and Statistical Management System that permits us to conduct research and clinical outcome analysis on a daily basis. Again, these opportunities are not available

during class time, but can be requested and scheduled.

B. VIABILITY:

1. Articulation Agreements:

There are no current program specific articulation agreements with other institutions of higher education. We have, however, a lease agreement with Cabell Huntington Hospital and Marshall University Medical Center which supports the Diabetes Exercise Center, Cardiac Rehabilitation Program, Pulmonary Rehabilitation Program, and Chronic Pain Management Program. This agreement provides opportunities for graduate assistantships, student internships and clinical rotations. It also provides fine clinical services to the community.

2. Off-Campus/Distance Delivery Classes:

No off-campus classes have been offered to date. **Appendix III** is N/A.

3. Service Courses:

There are currently no Exercise Science courses required for majors outside the Division. Some students from other majors (e.g., College of Health Professions) do, however, enroll in selected courses. Students in other areas of concentration in the Division are required to complete selected courses in the Exercise Science curriculum. This includes those pursuing Master of Science degrees in Sports Management and Marketing and Health and Physical Education. **Appendix IV** is not applicable.

4. Program Course Enrollment:

See **Appendix V**.

5. Program Enrollment:

Appendix VI and the **VI-A1 Figure** provide this information for the recent 5-year reporting period. The average annual enrollment was 50, with an observable increase over the past 3-year period. The average annual enrollment for 2004 and 2005 was 43 and that for the past 3 years, 55.

The average annual number of program graduates for the recent 5-year period was 15. As the **Table** in **APPENDIX VI-A2** and **Figure** in **APPENDIX VI-A3** clearly show, the number of students graduating from the program has grown substantially since its inception in 1988. Dr. Marley assumed responsibility for the program in 1993. At that time, 23 students had graduated in the previous 5-year period. The 3 subsequent 5-year reporting periods, including this one, have witnessed 100%, 25%, and 40% increases, respectively, from the initial reporting period.

We have reached our capacity for managing the number of students enrolled with our current faculty size and our facilities.

6. Enrollment Projections:

The 20-year graduation summary [**APPENDIX VI-A2**].represents a 252% increase in graduation rates since 1993. This increase would seem to demonstrate great interest in the Exercise Science program and confidence in our record of placement that reflects a change in health care from treatment-oriented medical approaches and their sky-rocketing costs to an emphasis on health promotion and disease prevention focusing on primary and secondary prevention - the number of wellness, preventive, and rehabilitation programs in the region and the country is rapidly expanding. We, therefore, anticipate continued enrollment success. **As indicated earlier, we are presently at program capacity for managing the number of students enrolled with our current faculty size and facilities.**

C. NECESSITY:

Accreditation

We are currently reviewing the application process for accreditation by the Commission on Accreditation of Allied Health Education Programs [CAAHEP]. Some standards are in place. Following an internship, students take a comprehensive oral examination in the presence of a select faculty committee; a thesis must be defended in similar fashion.
Many Exercise Science graduates have completed the requirements for certification as an *Exercise Specialist* by the American College of Sports Medicine, competing very favorably with students from other programs across the country. All of our students are required to be certified as *CPR Healthcare Providers* with *Automatic External Defibrillator* [AED] certification by the **American Heart Association** [**AHA**]. All of our students are required to take ESS 687 *Advanced Cardiac Life Support* [**ACLS**], a preparatory class, as part of their curriculum. Recently, all of our students in the *Clinical Applied Area of Emphasis* have also successfully completed the **AHA ACLS** classes at the Cabell Huntington Hospital and received certification prior to their internship, an important professional achievement and qualification in the clinical setting. Many other graduates have completed this latter certification during internships and on-the-job.

It should also be noted that those graduates who become physicians, pacemaker specialists, physical therapists, physician assistants, registered dieticians, pharmacists, registered nurses, and related clinical professionals do complete licensure and certification requirements prior to entering their clinical practice. This will not change.

1. Advisory Committee:

A formal Advisory Committee is not presently in place, but those centers, facilities and institutions providing internships and employment for our students are routinely requested to provide input for the Exercise Science program in their evaluations of our interns. We also now have a relatively extensive network with our graduates that provides substantial feedback and support to the program in the form of student referrals, educational materials, and guest speakers in our classes – in this respect, they provide excellent peer role models.

2. Graduates:

Graduates are being placed in appropriate professional positions at competitive salaries. Dr. Marley's survey of 94 Exercise Science graduates [**Table 7**] shows that 95% of them are employed In Field or an Allied Field.

Table 7. Current Employment

In Field	Allied Field	Out of Field	Total
53	35	6	94

Graduates [**Table 8, [APPENDIX IX]**] have obtained important administrative /management, and staff positions in clinical, corporate, commercial, and community health promotion, disease prevention, rehabilitation, wellness, performance enhancement, pharmaceutical, and other allied health care settings in the region and across the country. They have also been successful in obtaining positions dedicated to clinical research and in obtaining external funding to support their research programs.

Salaries range for initial positions from $25,000 to more than $150,000 as their careers progress. The salary of one graduate specializing in pacemaker sales and management was greater than $500,000 this past year. The salaries of some are augmented with an

expense account, the provision of a vehicle, and opportunities for consultation and professional clients as well as fine benefit plans. Others have also become owners and entrepreneurs in the health and fitness industry with one graduate owning and managing four [4] fitness centers in addition to being director of a cardiac rehabilitation program in a medical center. Another recently purchased two [2] exercise centers.

The doctorate is not a priority for Clinical Applied Area of Emphasis graduates. It provides no special opportunity for upward mobility and professional success in the clinical setting, except in research roles. Knowledge of the clinical literature and research interpretation and applications are valuable assets in all allied health disciplines and we, therefore, strongly emphasize the pursuit of scholarly excellence in both of these areas, along with clinical, technical and management skills. With the addition of an option for Exercise Physiology Area of Emphasis students [i.e., internship or thesis], some have taken employment in settings similar to those of graduates from the clinical program. One **Out of Field** graduate is currently employed in a prestigious genomic health development position.

Our graduates have excelled in other areas. One Exercise Science graduate served as President of the West Virginia Association for Cardiovascular & Pulmonary Rehabilitation [WVACVPR] and has presented numerous research papers at regional and national professional conferences. Another graduate was similarly honored as President of the Kentucky Association for Cardiovascular & Pulmonary Rehabilitation. The current President and President-Elect of the WVACVPR are MU Master of Exercise Science graduates. Other graduates are professionally active across the region and the country. See **Appendix VII** for a listing of selected publications, presentations, projects, and documents of recent Master of Science Exercise Science graduates.

3. Job Placement:

We have a successful record of placement. **Table 9 [APPENDIX IX]** lists some employers of Exercise Science graduates.

Students are assisted in their search for professional positions by several methods:
(1) Each student is required to establish a credential file that includes a current resume with the University Career Services Center. The Program Director personally assists them in their final resume edit and preparation of credentials.
(2) Our developing network of internship facilities/institutions is becoming a valuable source of potential employers. Internship supervisors also support employment opportunities at aligned institutions or those in other areas when they have no positions available. Many of our students are performing in such an outstanding fashion as interns that host institutions are employing them. This includes several appointments as Program Directors, Supervisors, and Coordinators **[Table 8: APPENDIX IX].**
3) Current employers of graduates keep us informed of job openings. In some cases, we receive regular requests for referral of qualified applicants for available professional positions. Our referral and support system literally insures employment for these candidates because the employers have come to trust our judgment as well as the training and preparation of our graduates.
(4) Feedback from graduates themselves keeps us informed of job opportunities before they are officially announced. One of our graduates recently left a position at the Cleveland Clinic Foundation [CCF] to take a position in Washington DC. Her CCF Director called me to inquire if we had another graduate similarly qualified to fill her position ASAP. Our contact provided an opportunity.
(5) Students themselves have become aggressive in their internship applications and

job searches in the region as well as other parts of the country. The achievements of their graduate peer role models, who also serve as guest speakers, show them that they can compete with anybody in the country.

(6) Exercise Science professors have professional networks and are also contacted by professional colleagues. Professor involvement in professional meetings and publications are other avenues of information for available employment opportunities.

(7) Students have access to career bulletins published by the following professional organizations:

- ✓ American College of Sports Medicine
- ✓ American Physiological Society
- ✓ American Association of Cardiovascular & Pulmonary Rehabilitation
- ✓ National Athletic Trainers Association
- ✓ National Strength and Conditioning Association

(8)Contact is maintained with former students at professional meetings, by correspondence, email, and telephone. The HPL Internet webpage is also an important vehicle for communicating with students.

D. CONSISTENCY WITH UNIVERSITY MISSION:

1. Commitment to high quality master's education.

This commitment of the Graduate Exercise Science Program [GESP] is embodied in an emphasis on development of the clinical attitude, scientific attitude, and a final, all-encompassing, objective that nurtures careful, thoughtful, thorough, and responsible attitudes and work habits in the clinical professional setting. Our intensive curriculum has provided a solid foundation for highly competent and successful professionals in medicine and allied health related to health promotion, disease prevention, and rehabilitation. The listings of **Current Positions** in **Table 8** and **Some Employers** in **Table 9** document the achievements of our graduates.

- ✓ A *clinical attitude* includes an understanding and skill in applying carefully structured strategies in managing patients/clients. Respect for the patient/client is paramount:

  "*Ask not what disease the patient has, but, rather, what patient the disease has." Sir* William Osler [physician and scientist]

- ✓ A *scientific attitude* includes respect for clinical assessment and carefully obtained data, respect for well-taken heart rate and blood pressure measures as well as the most sophisticated medical procedures [e.g., coronary angiograms, ventriculograms].

Recently, Dr. Stephen J. Kopp, President of Marshall University, visited the ***Diabetes Exercise and Cardiac Rehabilitation Center.*** Here are selected comments from his gracious follow-up letter:

> *"The facility tour was very informative and the capabilities that were showcased are quite remarkable. You have done an exceptional job building this program, both from a clinical and research perspective…. I also enjoyed meeting your staff. Their dedication to the program was quite evident. The…therapy and rehabilitation programs offered are impressive. In addition, it is a great educational laboratory. Judging by the enthusiasm of the participants…during my visit, you and your staff are clearly making a positive difference in their lives."*

2. Contribute to the body of human knowledge through scholarly activities.

GESP faculty have accrued $1,174,000 in grants and contracts the past five [5] years to support our program and related research. **Table 10** summarizes our accumulated publications, papers, and professional development activities for the past

fifteen [15] years. As the table shows, our faculty have maintained active scholarly roles in their fields of expertise; the observed increase in professional presentations over the past decade reflects the leadership roles they have achieved in their respective disciplines.
Our research and related publications and presentations at professional meetings have had an impact in the areas of cardiopulmonary rehabilitation, diabetes care, strength and conditioning, athletic training, and performance assessment and enhancement. We have examined relevant issues in preventive and rehabilitative medicine and allied health care. This includes confirmation of the positive impact of therapeutic lifestyle intervention on the clinical outcomes, quality of life, and economic outcomes for our diabetes, cardiac, and pulmonary patients. Contributions to the burgeoning field of performance enhancement have also played an important role in that discipline.

This research has also validated our diabetes, cardiac, and pulmonary patient management strategies and improved patient clinical outcomes. It is also used in graduate courses for instructional purposes [e.g., research methods, program development, and patient management]. And we have promoted the institutional image of Marshall University through our papers at international, national, regional, and state professional meetings,

Table 10. Scholarly Activity

	Professional Publications	Papers, Presentations
2004 - 2008	**24**	**70**
1999 - 2003	**27**	**71**
1993 - 1998	**21**	**12**

3. Commitment to society through public service.
Human Performance Laboratory Programs are partly staffed by selected graduate students, providing exceptional opportunities for their training as well as the training of other selected allied health professionals and the practical application of knowledge learned in the classroom. This commitment to our students and our patients is a strength of the program. Society is the ultimate benefactor.

Dr. Marley continues to serve on the Admissions Committee for the Joan C. Edwards Marshall University School of Medicine. This responsibility requires substantial professional and time commitments.
4. Commitment to diversity in our student body.
The GESP has included African Americans and students of Samoan and Hawaiian descent as well as students from England, Canada, Brazil, Argentina, Korea, Japan, and China. Curricular content also reflects diversity [e.g., African Americans and Hispanics are at greater risk for hypertension and diabetes]. Gender, socioeconomic, and age diversity are also given important consideration. We have witnessed an increase in the enrollment of nontraditional students as well as students wishing to change careers.
5. Commitment to assuring the integrity of the curriculum through maintenance of rigorous standards and high expectations for student learning and performance.

We adhere to strict applications of student entrance criteria and curricular standards [e.g., advanced physiological principles, medical profile interpretation, case management, risk stratification, EKG interpretation]. Critical thinking skills are essential in the areas of allied health, preventive medicine, and rehabilitation. Judgment errors in these areas can lead to injury and death; we must be held to a higher standard, a six-sigma standard. The curriculum is reviewed regularly. An example of a recent curricular revision illustrates this point; Health Care Administration 600, a course in the School of Business, was added as a requirement in the Clinical Applied Area of Emphasis.

6. Commitment to quality of health care in the region.

As noted earlier, the Diabetes Exercise Center, Cardiac Rehabilitation Program, Pulmonary Rehabilitation Program, and Chronic Pain Management Program accumulate more than 16,000 *patient contact hours* annually, underlining our commitment to the health and well-being of Tri-State residents. In the words of one of our diabetes patients,

"This program has restored meaning and purpose to my life."

We are proud of our referring physician base. Dr. Kevin W. Yingling has been especially supportive. Here are selected comments from a recent letter:

> *"I appreciate the excellent programs that you…provide for the Cardiac, Pulmonary and Diabetes patients. Your exercise programs have been instrumental in improving the health of many of my patients and I am sure many citizens of our region."*
>
> Kevin W. Yingling, M.D., F.A.C.P.
> Chairman
> Department of Medicine
> Joan C. Edwards School of Medicine at Marshall University

7. Commitment to securing funding for state-of-the-art classrooms to support scholarship and faculty development.

As noted in earlier discussions, the Human Performance Laboratory classroom and Rehabilitation Center have been completely renovated and a state-of-the-art audiovisual console has been installed in the classroom. It includes Internet access, Power Point, DVD, VCR, and Sympodium capability. This console is used regularly by faculty, staff, and students for presentations and workshop tasks. The classroom is also used for patient education.

8. Commitment to remain current with the literature in our field.

This is a hallmark of our Human Performance Laboratory Programs. Current opinion, and adherence to clinical guidelines and standards of practice are essential in medicine and allied health. Literature reviews and discussion occur regularly in our Exercise Science classes and in our patient education programs.

Dr. Marley's **Personal Archive** website with the ***New England Journal of Medicine*** and his **File Folder** at the ***Journal of the American Medical Association*** website have proven particularly useful with this task; these sites are used regularly with class presentations and workshop development. The **American Diabetes Association, American College of Sports Medicine,** and **American Association of Cardiovascular and Pulmonary Rehabilitation** also provide valuable resources. A former student, currently a successful executive in the pharmaceutical industry provided this unsolicited comment:

> "Dr. Marley has always done an excellent job of remaining current with the literature and injecting his knowledge into the courses."

Course lectures are revised on a regular basis to reflect the current literature.

CONSISTENCY WITH UNIVERSITY MISSION: FINAL COMMENT

Components of the GESP and related programs have been duplicated at centers in the region and across the country. As our students progress in their careers and assume positions of leadership, principles they have learned in the curriculum are being implemented into health promotion, disease prevention, cardiopulmonary rehabilitation, sports medicine, and wellness disciplines. This includes medical profile testing, case development, patient screening, stratification, risk stratification, and other carefully structured patient/client management strategies.

As well, GESP training is having a positive impact on the credentials and certification of our graduates. As noted earlier, our graduates are becoming physicians, pacemaker specialists, physical therapists, physician assistants, registered dieticians, pharmacists, registered nurses, and related clinical professionals who complete licensure and certification requirements prior to entering their clinical practice.

- ☐ Other examples are American College of Sports Medicine certification as an Exercise Specialist or Program Director, Certified Athletic Trainer certification by the National Athletic Trainers Association, and Advanced Cardiac Life Support [ACLS] certification by the American Heart Association.

In this context, here is an unsolicited comment from a graduate who is currently a successful executive in the pharmaceutical industry:

> "The ability for the University to offer clinical opportunities [i.e., graduate assistantships] is invaluable. I hope the recent decision of the University to cut GA positions will not reduce the clinical opportunities in Human Performance Laboratory Programs."

Our productive professional relationships with Counseling, Educational Research and Statistics, and the Marshall University Medical Center continue. Benefits include courses, clinical observations and training, participation in oral comprehensive examinations, and student consultations for professional career planning.

APPENDICES

Chart I	**Assessment Summary**
Appendix I	**Exercise Science Course Requirements**
Appendix II	**Faculty Data Sheets**
Appendix III	**Not applicable**
Appendix IV	**Not Applicable**
Appendix V	**Program Course Enrollment**
Appendix VI	**Enrollment**
Appendix VI-A	**Table. 15-Year Enrollment Summary**
Appendix VI-A	**Figure. 15-Year Enrollment Summary: Exercise Science Graduates By Five-Year Reporting Cycles**

Chart I Assessment Summary
Marshall University
Assessment of Student Outcomes: Component/Course/Program Level [5 year summary]
Component Area/Program/Discipline: ___Exercise Science_____

Component / Course / Program Level					
Student Learning Outcome	**Person or Office Responsible**	**Assessment Tool or Measure**	**Standards/Benchmarks**	**Results/Analysis**	**Action Taken**
1. Admission Competencies	Program Director	UG – GPA Science background Consider GRE scores; interview; letters of rec.	2.75 GPA Full Admission UG Exercise Physiology UG Fitness Assessment UG Kinesiology	All students met requirements for at least provisional admissions	Establish more rigid entrance criteria and increase rigor of Exercise Science curriculum
2. Statistical Analysis	Program Director, course instructors, oral exam committee	ESS 670; EDF 517, 621, 625; PSY 623, 624; MGT 500, MKT 683	Successful completion of course work. Pass oral examination.	All students demonstrated appropriate statistical analysis skills.	Show students relevance in daily practice and patient outcome data management
3. Research Design	Program Director, course instructors, oral exam committee	ESS 670; EDF 517, 621, 625; PSY 623, 624; MGT 500, MKT 683	Successful completion of research project.	All students successfully completed a research project.	Program management: minimize variance and maintain quality control
4. Related Literature	Program Director; advisors, course instructors, oral exam committee.	ESS 621, 670, 682, 683, 684, 685; student literature reviews; comprehensive oral examination.	Successful completion of course work, internship, thesis, and comprehensive oral examination.	All students demonstrated acceptable knowledge of professional literature.	Implement current medical opinion: ATP III, JNC VII; ADA Clinical Practice Guidelines & benchmarking
5. Clinical Skills	Program Director; advisors, course instructors, oral exam committee.	ESS 601, 621, 683, 684, 687, COUN 577, 535, 540, internship, thesis; oral examination	Successful completion of an internship.	All students demonstrated acceptable clinical skills.	Medical Profile Test Development & Case Management training; Cases assigned.
6. Best Practices	Program Director advisors, course instructors, oral exam committee.	All course work, internship, thesis, and oral exam; EKG and ACLS Courses at the Medical Center.	Successful completion of course work, internship [site], thesis, & pass comprehensive oral examination.	Best Practices performance standards achieved by all students.	Application of screening, stratification, risk stratification in DEC, CRP, CPMP, internship. thesis .
7. Technical Skills	Program Director; advisors, course instructors, oral exam committee.	ESS 601, 621, 683, 684, 687 internship, oral exam; EKG/ ACLS Courses Medical Ctr. Verification procedures.	Successful completion of course work and internship. Pass oral examination. Verification record.	All students demonstrated acceptable skill performance.	EKG, BP, blood glucose, MSET, ACLS, patient management skills: clinical assignment.
8. Graduate satisfaction	Program Director	Survey questionnaire; personal interview; network	Graduate satisfaction ratings from questionnaires/interviews.	Graduates are highly satisfied with the program	Revise program content, website, & guest speakers
9. Employer satisfaction	Program Director	Survey questionnaire; personal interview; network	Employer satisfaction ratings from questionnaire/interviews.	Employers are very pleased with the performance of our graduates	Revise program content;, website, & guest speakers.

APPENDIX I

EXERCISE SCIENCE: COURSE REQUIREMENTS

Clinical Applied Area of Emphasis:

	Hours
Minimum requirements	39
Exercise Science Courses – 21 Hours Required:	
ESS 621 – Scientific Aspects of Physical Education	3
ESS 670 – Research in Physical Education	3
ESS 682 – Preventive and Rehabilitative Physiology	3
ESS 683 – Cardiovascular Assessment	3
ESS 684 – Developing Exercise, Nutritional, and Behavioral Prescriptions	3
ESS 685 – Development & Adm. of Preventive & Rehab. Medical Programs	3
ESS 687 – Cardiac Life Support	3
Restricted Electives – 9 Hours Required:	
FCS 508 – Nutrition in Cardiac Disease	3
Coun 535 – Group Process/Analysis	3
Coun 604 – Group Counseling & Theories	3
Coun 577 – Stress Management Counseling	3
Coun 578 – Special Topics: Health & Wellness Counseling	3
ESS 586 – Independent Study	1-4
ESS 601 – Advanced Exercise Testing	3
Research Courses – 3 Hours Required:	
EDF 517 – Statistical Methods	3
EDF 621 – Educational Research and Writing	3
EDF 625 – Qualitative Research in Education	3
PSY 623 – Experimental Design	3
PSY 624 – Multivariate Analysis	3
MGT 500 – Analytical Methods and Techniques	3
MKT 683 – Advanced Marketing Research	3
Other courses may be taken with permission.	
ESS 660 – Clinical Internship	6

APPENDIX I [Continued]

Exercise Physiology Area of Emphasis:

Hours

Minimum Requirements....39

Exercise Science Courses – 27 Hours Required....3
- ESS 578 – Energy Sources, Body Composition and Performance....3
- ESS 585 – Independent Study....3
- ESS 586 – Independent Study....3
- ESS 587 – Independent Study....3
- ESS 588 – Independent Study....3
- ESS 601 – Advanced Exercise Testing....3
- ESS 621 – Scientific Aspects of Physical Education....3
- ESS 651 – Mechanical Analysis of Motor Skills....3
- ESS 670 – Research in Physical Education....3
- ESS 683 – Cardiovascular Assessment....3
- ESS 684 – Dev. Exercise, Nutritional, & Behavioral Prescriptions....3

Research Courses – 3 Hours Required
- EDF 517 – Statistical Methods....3
- EDF 621 – Educational Research and Writing....3
- EDF 625 – Qualitative Research in Education....3
- PSY 623 – Experimental Design....3
- PSY 624 – Multivariate Analysis....3

Restricted Electives – 3 Hours Required....3

Other courses may be taken with permission.

Option:
ESS 660 – Internship....6
ESS 681 – Thesis....6

Research Courses – 3 Hours Required

Professional societies that have influenced the program offering and requirements:

American College of Sports Medicine

American Association for Cardiovascular & Pulmonary Rehabilitation

American Medical Association

- The Journal of the American Medical Association

Massachusetts Medical Society

- The New England Journal of Medicine

National Strength and Conditioning Association

APPENDIX I [Continued]

Athletic Training Area of Emphasis:

Hours

Minimum Requirements 36

Exercise Science Courses – 12 Hours Required
- ESS 578 – Energy Sources, Body Composition and Performance 3
- ESS 585 – Independent Study 3
- ESS 586 – Independent Study 3
- ESS 587 – Independent Study 3
- ESS 588 – Independent Study 3
- ESS 601 – Advanced Exercise Testing 3
- ESS 621 – Scientific Aspects of Physical Education 3
- ESS 651 – Mechanical Analysis of Motor Skills 3
- ESS 670 – Research in Physical Education 3
- ESS 683 – Cardiovascular Assessment 3
- ESS 684 – Dev. Exercise, Nutritional, & Behavioral Prescriptions 3
- ESS 687 – Cardiac Life Support 3

Health Science Courses – 9 Hours Required
- HS 522 Prevention, Care, & Treatment of Athletic Injuries 3
- HS 526 Curriculum in Health Education 3
- HS 530 Health Issues in Physical Education & Athletics 3
- HS 540 Health Evaluation for the Athletic Trainer (or HS 640) 3
- HS 548 Therapeutic Modalities in Athletic Training (or HS 646) 3
- HS 549 Therapeutic Exercise in Sports Medicine 3
- HS 560-564 Professional Development (Plus Title that identifies content) 3
- HS 579 Trends in Athletic Training 3
- HS 580-583 Special Topics in health Education 3
- HS 591-592 Workshop in Health Science 3
- HS 620 Substance Abuse and the Athlete 3
- HS 623 Medical Aspects in Sports 3
- HS 640 Health Evaluation for the Athletic Trainer (or HS 540) 3
- HS 646 Athletic Training I (or HS 548) 3
- HS 647 Athletic Training II 3

Research Courses – 3 Hours Required
- EDF 517 (or equivalent) – Statistical Methods 3

Restricted Electives – 6 Hours Required 3

Other courses may be taken with permission.

Option:
HS 660 – Internship 6
HS 681 – Thesis 6

Appendix II
Faculty Data Sheet

Name: William P. Marley, Ph.D., FACSM, FAACVPR, NFLA Rank: Professor
Status (Check one): Full-time x Part-time ___ Adjunct ___ Current MU Faculty: Yes x No ____
Highest Degree Earned: Ph.D. Date Degree Received: 1969
Conferred by: The University of Toledo
Area of Specialization: Exercise Physiology
Professional Registration/Licensure N/A Agency: N/A

Years non-teaching experience 18 Years of employment other than Marshall 27
Years of employment at Marshal 16 Years of employment in higher education 25
Years in service at Marshall during this period of review 5

List courses taught during the final two years of this review (summer through spring).

Year/Semester	Alpha Des. & No.	Title	Enrollment
Summer 2006	ESS 660	Internship	2
	ESS 385	Development and Management of Adult Fitness Programs	13
	ESS 670	Research Methods	18
Fall 2006	ESS 683	Cardiovascular Assessment	19
	ESS 685	Dev. & Adm. of Prev. & Rehabilitative Medical Programs	12
	ESS 670	Research Methods	25
	ESS 490	Internship	7
Spring 2007	ESS 385	Development and Management of Adult Fitness Programs	24
	ESS 682	Hlth Prom., Disease Prev, & Rehabil: Clinical Perspectives	8
	ESS 684	Dev. Exercise, Nutritional, and Behavioral Prescriptions	14
	ESS 660	Internship	10
Summer 2007	ESS 660	Internship	2
	ESS 385	Development and Management of Adult Fitness Programs	8
	ESS 670	Research Methods	16
Fall 2007	ESS 683	Cardiovascular Assessment	14
	ESS 685	Dev. & Adm. of Prev. & Rehabilitative Medical Programs	11
	ESS 670	Research Methods	22
	ESS 660	Internship	2
Spring 2008	ESS 684	Dev. Exercise, Nutritional, and Behavioral Prescriptions	8
	ESS 682	Hlth Prom., Disease Prev, & Rehabil: Clinical Perspectives	11
	ESS 385	Development and Management of Adult Fitness Programs	24
	ESS 660	Internship	2

List events during the period of this review; begin with the most recent activities.

1) N/A

2) Activities that have enhanced your teaching and or research.
   - Our research in Human Performance Laboratory Programs continues to be productive. The data are used to demonstrate the effectiveness of our programs and in the classroom to demonstrate hands-on applicability in the clinical setting.
   - Renovation of both the Rehabilitation Center and classroom made possible by a $30,000 grant from Interim President Michael Farrell has enhanced the therapeutic and academic effectiveness of HPL Programs.
   - Just recently, a Sympodium was added to the state-of-the art audiovisual unit made possible by President Farrell's grant. This innovative classroom AV tool is used by professors and students to enhance learning.
   - A contract was established with Orion Software Development Corporation that permits us to analyze our clinical data more effectively. As well, this system permits us to benchmark our data; that is, we can compare the clinical outcomes of our patients with those across the country, providing strong validation for our programs.

3) Discipline-related books/papers published (provide a full citation).
   Have published more than 75 professional articles, a textbook, and numerous technical reports, manuals, monographs, handbooks in my career. In the past five [5] years, 13 papers and articles were published, 9 of them in refereed journals.
   - Cardiac Rehabilitation Engagement in an Insured Population. *J Cardiopulm Rehabil.*. 2008; 28:282.
   - A Study of Cardiac Patients in a Community-Based Program. *J Cardiopulm Rehabil.* 2007; 27:334.
   - The Diabetes Epidemic, Interventional Strategies, and Related Economic Factors ***2007 Conference Proceedings***, pages 3702-3709. **Hawaiian International Conference on Education** Honolulu, HI: January 6, 2007
   - Impact of Cardiac Rehabilitation on the Economic Domain. *J Cardiopulm Rehabil.* 2006; 26:262.
   - Progression of Heart Disease Can Be Reduced or Reversed. *The Herald-Dispatch*. April 10, 2006.
   - Benefit of Cardiac Rehabilitation for the Metabolic Syndrome and Related Variables in Patients With Comorbid Diabetes Mellitus. *J Cardiopulm Rehabil.* 2005; 25: 365.
   - Recent Research Shows Exercise Can Prevent, Delay, or Correct Type 2 Diabetes Mellitus. *WVAHPERD Newsletter* [Spring]: 20,21; 2005.
   - Cardiac Rehabilitation Programs Beneficial for Patients with Diabetes. *Endocrine Today* 2004; 2 [Number 7]: 35.
   - Benchmarking Outcomes for Type 2 Diabetes Patients in a Cardiac Rehabilitation Prog*ram*. *J Cardiopulm Rehabil.* 2004; 24: 348.
   - Cardiac Rehabilitation Outcomes for Type 2 Diabetes Patients. Benchmarking data . ***Proceedings: 2004 CDC Diabetes Translation Conference:*** **Expanding Clinical Horizons in Diabetes Care** Chicago, IL May 14, 2004
   - Flaxseed Nutritional Supplements May Be Harmful to Men. *The Herald-Dispatch*. January 14, 2004.
   - Cardiac Rehabilitation Outcomes for Type 2 Diabetes Patients. *J Cardiopulm Rehabil.* 2003;23:377.
   - *Pete Maravich: His Role in the 20th Century NBA*. Website Commentary . *Sporting News*; April 22, 2003

4) Papers presented at state, regional, national, or international conferences.

Twenty-seven [27] papers were presented, 1 at an international conference, 10 at national meetings, and the remainder [16] at eastern regional, Tri-State and state meetings. One presentation was a Family Practice Grand Rounds. This does not include our weekly and monthly education sessions for diabetes, cardiac, and pulmonary patients in the Marshall University Diabetes & Cardiopulmonary Rehabilitation Center and Diabetes Treatment Center at Cabell Huntington Hospital.

- One paper was a **KEYNOTE LECTURE:**
  Diabetes Therapeutic Lifestyle Intervention: Cardiac Autonomic Neuropathy & Related Clinical Concerns
  26th ANNUAL WEEKEND UPDATE FOR OUTPATIENT CARDIAC REHAB NURSES
  NURSING ENRICHMENT CONSULTANTS, INC.; Harrisburg, PA: November 10, 2007

5) Professional development activities, including professional organizations, state, regional, national, and international conferences attended. List which you chaired or participated. List offices you hold in professional organizations.

Professional organizations: **Fellow**, American College of Sports Medicine **[ACSM]**; **Fellow,** American Association of Cardiovascular & Pulmonary Rehabilitation **[AACVPR**]; recognized by the President's Council on Physical Fitness& Sports as a **Healthy American Fitness Leader**; listed in American Diabetes Association [ADA] ***Who's Who in Diabetes Treatment, Education & Research***,

Attended 45 conferences, seminars, and meetings:1 was international 9 were national, and the remainder [35] were regional. National meetings included a Center for Disease Control Diabetes Translation Conference. Regional meetings included the West Virginia, SE Ohio & E KY ADA Annual Conference, West Virginia Association of Cardiovascular & Pulmonary Rehabilitation Conferences, and Tri-State Society for Endocrinology & Metabolism seminars and Grand Rounds. .

6) Externally funded research grants and contracts you received.
☐ Funds received from contracts and grants in the amount of $709,000.
List externally funded research (grants and contracts) you received during the last five years:
. **Professor and Director/Principal Investigator**
Human Performance Laboratory Programs

- ❑ Cabell Huntington Hospital/MU Medical Center Contract [1997 to present]

I negotiated this contract in 1997. It generates $42,000 in revenue annually and supports The Diabetes Exercise Center [DEC], Cardiac Rehabilitation Program [CRP}, Pulmonary Rehabilitation Program [PRP], and Chronic Pain Management Program [CPMP]. The DEC is one of a kind in the country and is part of the CHH Diabetes Treatment Center, an ADA certified center. The CRP/PRP continue to maintain national certification by the AACVPR, having been the first such program in West Virginia to be so certified. The DEC, CRP/PRP, and CPMP annually accumulate more than 10,000, 3,000, and 3,000 patient-contact hours, respectively. The 5-year combined total is greater than 80,000 patient-contact hours. These programs also provide clinical practicum and internship opportunities for graduate and undergraduate students in Exercise Science, Physical Therapy, Dietetics, Athletic Training, and 3rd & 4th year medical students. The Human Performance Laboratory [HPL] is one of a few labs in the country that provides students with opportunities to work in the clinical setting. This means they learn clinical procedures that include developing exercise prescriptions, taking BP's, reading EKG's, checking blood glucose readings, and managing clinical files. The opportunity to assist in such a setting is immeasurable; students benefit greatly by directly applying knowledge gained in the classroom. Funds received for this contractual agreement are used to support graduate assistantships, purchase equipment for the HPL and Division of ESSR and provide related technological support and services.

This contract was renegotiated 2 years ago due to administrative and staffing changes at CHH. Salaries for the 2 Clinical Coordinators, a Registered Respiratory Therapist RN, and Physical Therapist are now covered by this contract, projecting the amount of $215,000 annually, approximately $430,000 for the past 2 years. The 5-year total for the lease and Senior GA position financed by CHH, as noted above, is $210,000.

- ❑ Interim President Michael Farrell's $30,000 grant [see #2 above] permitted complete renovation of the Rehabilitation Center and Human Performance Laboratory classroom.
- ❑ Johnson & Johnson Lifescan Clinical Site [1995 to present]
  As a recipient of this competitive honor, the HPL receives blood glucose strips, lancets, glucometers, and related technological support as well as educational materials and support. This award amounts to $4,000 annually and $20,000 for the past 5 years.
- ❑ The CHH Ladies Auxiliary provided a $5000 grant for the purchase of equipment.

7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.

- Following my **Keynote Lecture** at the ***26th ANNUAL WEEKEND UPDATE FOR OUTPATIENT CARDIAC REHAB NURSES*** [see #4], I was honored jointly by **NURSING ENRICHMENT CONSULTANTS, INC**. and the **Tri-State Society for Cardiovascular & Pulmonary Rehabilitation [TSSCVPR/PA-NJ-DE]** with a ***CAREER SERVICE AWARD***.
  "For his leadership and vision in establishing the TSSCVPR nearly 25 years ago. Building on what he started, the TSSCVPR was recognized by the AACVPR with the first ***'Most Outstanding Affiliate Award'*** and continues to lead the nation in regional activities and achievements." Presented at the:
  26th ANNUAL WEEKEND UPDATE FOR OUTPATIENT CARDIAC REHAB NURSES
  Harrisburg, PA [the state capitol of Pennsylvania]: November 10, 2007.

8) Community service as defined in the Greenbook.

- The Human Performance Laboratory Programs continue to serve the Tri-State. The Diabetes Exercise and Cardiopulmonary Rehabilitation Center and Chronic Pain Management Program generate 16,000 patient contact-hours annually; the 5-year figure is more than 80,000 patient contact-hours..
- Continue to serve on the Leadership Council for the West Virginia, SE Ohio & E KY American Diabetes Association ; listed in the **American Diabetes Association *WHO'S WHO IN DIABETES TREATMENT, EDUCATION & RESEARCH***.
- Continue to serve on the West Virginia Association of Cardiovascular & Pulmonary Rehabilitation Board of Directors.
- Continue to serve on the **Admissions Committee** for the **Marshall University School of Medicine.**

Appendix II
Faculty Data Sheet

Name: Gary E. McIlvain **Rank:** Assistant Professor

Status (Check one): Full-time___X__ Part-time__ Adjunct __ **Current MU Faculty:** Yes __X_ No __

Highest Degree Earned: EdD **Date Degree Received:** Defended June 3, 2008
Conferred by: University of Kentucky, Graduation Date – August 2008
Area of Specialization: Health Promotion/Athletic Training
Professional Registration/Licensure 049402520 Agency: National Athletic Trainers Board of Certification

Years non-teaching experience	5
Years of employment other than Marshall	5
Years of employment at Marshall	9
Years of employment in higher education	9
Years in service at Marshall during this period of review	5

Year/Semester	Alpha Des. & No.	Title	Enrollment
2006/Fall	HS 215	Intro to Athletic Training	31
2006/Fall	HS 422/522	Care of Athletic Injuries	13
2006/Fall	HS 255 Team Taught 50%	Athletic Training Clinical Experience 1	4
2006/ Fall	HS 361 Team Taught 50%	Athletic Training Clinical Experience 3	1
2006/Fall	HS 460 Team Taught 50%	Athletic Training Clinical Experience 4	2
2006/Fall	HS 490 Team Taught 50%	Athletic Training Senior Capstone	5
2006/Fall	HS 481/ESS 410 Team Taught	Sp.Tp. Administration Strategies in Athletic Training and Administration of Health and Physical Education	21
2006/Fall	ESS 369/581	Nature and Basis of Motor Skills	16
2007/Spring	HS 215 Team Taught 50%	Intro to Athletic Training	22
2007/Spring	HS 255 Team Taught 50%	Athletic Training Clinical Experience 1	3
2007/Spring	HS 460 Team Taught 50%	Athletic Training Clinical Experience 4	1
2007/Spring	HS 490 Team Taught 50%	Athletic Training Senior Capstone	2
2007/Spring	HS 449/549	Therapeutic Exercise in Athletic Training	6
2007/Summer	HS 360	Athletic Training Clinical Experience 2	4
2007/Summer	HS 460	Athletic Training Clinical Experience 4	1
2007/Summer	ESS 490	Sport Management & Marketing Senior Internship	21
2007/Summer	ESS 321 Team Taught 50%	Kinesiology	21
2007/Summer	ESS 201-E	Scientific Foundations of Physical Education	3
2007/Fall	HS 215	Intro to Athletic Training	28
2007/Fall	HS 361 Team Taught 50%	Athletic Training Clinical Experience 3	2
2007/Fall	HS 460 Team Taught 50%	Athletic Training Clinical Experience 4	4
2007/Fall	HS 490 Team Taught 50%	Athletic Training Senior Capstone	2
2007/Fall	HS 480/590 Team Taught 50%	Sp. Tp. Modalities 1 for the Athletic Trainer	14
2008/Spring	HS 255	Athletic Training Clinical Experience 1	8
2008/Spring	HS 360	Athletic Training Clinical Experience 2	1
2008/Spring	HS 490	Athletic Training Senior Capstone	5
2008/Spring	HS422/522	Care of Athletic Injuries	20

2) Activities that have enhanced your teaching and or research.

1. Defended Dissertation June 3, 2008 at the University of Kentucky
2. Writing Across Curriculum Intensive Instructor

3. Attended Annual Writing Across Curriculum Seminar Spring 2008
4. Proposed Text Reviewer (selected chapters) Jones and Bartlett Publishers. November, 2007.
5. Proposed Text Reviewer (selected chapters) F. A. Davis & Co.*Emergency Care of Sports Injuries.* April, 2006.
6. Reviewer for the National Strength and Conditioning Journal

3) Discipline-related books/papers published (provide a full citation).

1. Jones, M., McIlvain, G., Schaeffer, M., Hoxie, S., & Giangarra, C. (2008) In Press – Pancreatic transection – An unusual youth soccer injury. *Athletic Therapy Today.*
2. McIlvain, G. & Giangarra, C. (2008). Median nerve entrapment: Looking beyond carpal tunnel. *Athletic Therapy Today (13)*3, 3-6.
3. McIlvain, G., Sturgill, R., & Martin, D. (2006) *Being Prepared for a Medical Emergency*. Journal of Physical Education and Recreation (Hong Kong) 12(1). 68-62.

4) Papers presented at state, regional, national, or international conferences.

1. Martin, D. & McIlvain, G. March 2, 2008. Invited speakers at Southeast Athletic Trainers' Association annual district meeting. Topic: Neurologic Assessment for Athletic Trainers.
2. January 20-21 (2007) Martin, D., McIlvain, G., and Sturgill, R. Functional Lung and Heart Evaluation. Tennessee Athletic Trainers' Society Annual state meeting. Invited speakers.
3. McIlvain, G. & Martin, D. February 23, 2007. West Virginia Athletic Trainers' Association Annual state meeting. Poster presentation titled "Concussions: What are we saying… What are we doing?"
3. Martin, D., McIlvain, G., Sturgill, R. January 20, 2007. Tennessee Athletic Trainer's Society Annual Sate Meeting and Clinical Symposium. Invited Speaker for Preconference workshop titled *Functional Lung and Heart Evaluation.*
4. McIlvain, G., Martin, D., & Sturgill, R. *Use of Otoscope and Ophthalmoscope For the Athletic Trainer.* Workshop/Presentation at the South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006 . Atlanta, Ga.
5. Sturgill, R., Martin, D., McIlvain, G. *Heart Assessment for the Athletic Trainer Workshop.* South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006. Atlanta, Ga.
6. Martin, D., McIlvain G., Sturgill, R. *Pulmonary Assessment For The Athletic Trainer.* (Presentation). South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006. Atlanta, Ga.
7. Martin., D., Sturgill, R., McIlvain, G. *Cardiac Assessment for the Athletic Trainer.* (Presentation). South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006. Atlanta, Ga.
8. Martin, D., McIlvain, G., Sturgill, R., *Thoracic Evaluation for the Athletic Trainer.* (Presentation) West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
9. Martin, D., McIlvain, G., *Sturgill, R. Thoracic Evaluation for the Athletic Trainer.* (Workshop) West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
10. McIlvain, G., Martin, D., Sturgill, R. *Prevention Programs For the Female Knee: An Evidence Based Approach For the Practitioner.* West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
11. Sturgill, R., McIlvain, G., Martin, D. *Radiology For The Athletic Trainer*. West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
12. Martin, D., McIlvain, G., & Sturgill, R. *Cooperative Electronic Advising, Student Portfolios, & Program Assessment: A Technological Approach.* West Virginia Association of Colleges for Teacher Education Conference. February 23-24, 2006.
13. Martin, D. & McIlvain, G. *Neurologic Evaluation Skills: A Return to Basics* Kentucky Athletic Trainer's Annual State Symposium, January 21, 2006.
14. McIlvain, G., Sturgill, R., & Martin, D. *Medical Emergency: What's Your Plan.* 4th Hawaii International Conference on Education, January 5, 2006.
15. Sturgill, R., McIlvain, G., & Martin, D. *Cooperative Electronic Advising and Electronic Portfolios.* 4th Hawaii International Conference on Education, January 5, 2006.

5) **Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.**

1. National Athletic Trainers Association Member
2. Kentucky Athletic Trainers Society Member
3. South Eastern Athletic Trainers Association Member
4. CPR instructor, American Heart Association

7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.

1. 2008-2009 Who's Who Among Executives and Professionals
2. 2007-2008 Marshall University College of Education and Human Services Faculty Award for Excellence in Teaching
3. 2007-2008 Cambridge Who's Who Among Executives and Professionals in Athletic Training
4. 2006-2007 Marshall University College of Education and Human Services Faculty Award for Excellence in Scholarship
5. 2006-2007 Cambridge Who's Who Among Executives and Professionals

8) Community service as defined in the *Greenbook*.

1. McIlvain, G. May 27, 2007. Invited Speaker for In-service at Elite Rehab and Fitness. In-service title: *The Female Knee & Reducing the risk of ACL injury."*
2. McIlvain, G. & Giangarra, C. MD March 10, 2007. Presentation/In-service at Boyd County High School titled *The female athlete: Her knee and reducing the risk of injury.*
3. Assisted with high school physicals at Bellefonte Hospital Summer 2006, 2007, & 2008
4. Contract Employee and Marketing Consultant for Elite Rehab and Fitness, Ironton OH
5. Medical Director & athletic trainer Huntington Heroes Indoor Professional Football Team
6. Athletic Training Consultant to Kentucky Christian University in new facility construction and medical coverage

Appendix II
Faculty Data Sheet

(No more than TWO pages per faculty member)

Name: ___R. Daniel Martin _____ Rank: ____ Professor_____

Status: (Check one) Full-time_XX__; Part-time_____; Graduate Assistant._____

Highest Degree Earned: _____EdD_____Date Degree Received:____8/95_____

Conferred by:___West Virginia University_____

Area of Specialization: __Administration/Clinical Sports Medicine_____

Professional Registration/Licensure_____000030084_____ Agency: ____NATABOC_____

Years non-teaching experience	___4___
Years of employment other than Marshall	___5____
Years of employment at Marshall	___28___
Years of employment in higher education	___32___

To determine compatibility of credentials with assignment:

1 List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percent of the course you taught. For each course include the year and semester taught, course number, course title and enrollment.

Year/Semester	Course Number & Title		Enrollment
Fall 2006	HS 440/540	Health Assessment I	8/6
	ESS 490	Internship/capstone	11
	ESS 687	Cardiac Life Support	13
	ESS 215	Intro Athletic Training (team taught)	31
	ESS 530	Sport Law	9
SP 2007	ESS 490	Internship/capstone	15
	ESS 660	Internship	14
	ESS 479/579	Trends In Athletic Training	6/2
SU 2007	ESS 490	Internship/capstone	39
	ESS660	Internship	4
	HS 660	Internship	2
Fall 2007	ESS 490	Internship/capstone	9
	HS 660	Internship	1
	ESS 660	Internship	5
SP 2008	ESS 490	Internship/capstone	12
	ESS 660	Internship	6
	HS 660	Internship	4
SU 2008	ESS 490	Internship/capstone	42
	ESS 660	Internship	10
	HS 660	Internship	1

2) Activities that have enhanced your teaching and or research.

1. Served on a total of 80 master's committees; 4 theses
2. Writing Across Curriculum Intensive Instructor
3. Attended Annual Writing Across Curriculum Seminar Spring 2008
4. Reviewer for the National Strength and Conditioning Journal

3) Discipline-related books/papers published (provide a full citation).

McIlvain, G., Sturgill, R., & **Martin, D**. (2006) *Being Prepared for a Medical Emergency*. Journal of Physical Education and Recreation (Hong Kong) 12(1). 68-62.

4) Papers presented at state, regional, national, or international conferences.

1. **Martin, D**. & McIlvain, G. March 2, 2008. Invited speakers at Southeast Athletic Trainers' Association annual district meeting. Topic: Neurologic Assessment for Athletic Trainers.
2. January 20-21 (2007) **Martin, D**., McIlvain, G., and Sturgill, R. Functional Lung and Heart Evaluation. Tennessee Athletic Trainers' Society Annual state meeting. Invited speakers.
3. McIlvain, G. & **Martin, D**. February 23, 2007. West Virginia Athletic Trainers' Association Annual state meeting. Poster presentation titled "Concussions: What are we saying… What are we doing?"
3. **Martin, D**., McIlvain, G., Sturgill, R. January 20, 2007. Tennessee Athletic Trainer's Society Annual Sate Meeting and Clinical Symposium. Invited Speaker for Preconference workshop titled *Functional Lung and Heart Evaluation.*
4. McIlvain, G., **Martin, D**., & Sturgill, R. *Use of Otoscope and Ophthalmoscope For the Athletic Trainer.* Workshop/Presentation at the South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006 . Atlanta, Ga.
5. Sturgill, R., **Martin, D**., McIlvain, G. *Heart Assessment for the Athletic Trainer Workshop.* South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006. Atlanta, Ga.
6. **Martin, D**., McIlvain G., Sturgill, R. *Pulmonary Assessment For The Athletic Trainer.* (Presentation). South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006. Atlanta, Ga.
7. **Martin., D**., Sturgill, R., McIlvain, G. *Cardiac Assessment for the Athletic Trainer.* (Presentation). South East Athletic Trainers Association Symposium & Members District Meeting. March 30-April 2, 2006. Atlanta, Ga.
8. **Martin, D**., McIlvain, G., Sturgill, R., *Thoracic Evaluation for the Athletic Trainer.* (Presentation) West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
9. **Martin, D**., McIlvain, G., *Sturgill, R. Thoracic Evaluation for the Athletic Trainer.* (Workshop) West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
10. McIlvain, G., **Martin, D**., Sturgill, R. *Prevention Programs For the Female Knee: An Evidence Based Approach For the Practitioner.* West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
11. Sturgill, R., McIlvain, G., **Martin, D**. *Radiology For The Athletic Trainer*. West Virginia Athletic Trainer's Association Annual State Meeting & Symposium. March 25, 2006.
12. **Martin, D**., McIlvain, G., & Sturgill, R. *Cooperative Electronic Advising, Student Portfolios, & Program Assessment: A Technological Approach.* West Virginia Association of Colleges for Teacher Education Conference. February 23-24, 2006.
13. **Martin, D**. & McIlvain, G. *Neurologic Evaluation Skills: A Return to Basics* Kentucky Athletic Trainer's Annual State Symposium, January 21, 2006.
14. McIlvain, G., Sturgill, R., & **Martin, D**. *Medical Emergency: What's Your Plan*. 4th Hawaii International Conference on Education, January 5, 2006.
15. Sturgill, R., McIlvain, G., & **Martin, D**. *Cooperative Electronic Advising and Electronic Portfolios.* 4th Hawaii International Conference on Education, January 5, 2006.

5) **Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.**

1. National Athletic Trainers Association Member
2. Kentucky Athletic Trainers Society Member
3. Mid-Atlantic Athletic Trainers Association Member – research grant committee
4. CPR instructor trainer, American Heart Association
5. West Virginia Athletic Trainers Association Member – Student presentation committee

6) Externally funded research grants and contracts you received. (total = $305,200)

1. Annual contracts for area agencies to provide athletic trainers in schools and clinics.
   07-08 = $47,900; **06-07** = $45,200; **05-06** = $39,000; **04-05**= $81,600; **03-04**= $91,500

7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.

1. 2008-2009 Who's Who Among Executives and Professionals
2. 2007-2008 Cambridge Who's Who Among Executives and Professionals in Athletic Training
3. 2006-2007 Cambridge Who's Who Among Executives and Professionals
4. Spring 2004 – West Virginia Athletic Trainer of the Year Award

8) Community service as defined in the *Greenbook*.

1. Assisted with emergency coverage for Huntington Outdoor Theatre; Summer 2004, 2005, & 2006
2. Member since 1988, WVSSAC sports medicine committee
3. Member since 1986, WVAAFP Sports Medicine Committee
4. Consultant to Huntington Fire Dep't and Tri-state fire academy
5. Director of medical coverage of the WV state high school wrestling championships since 1990

Appendix II
Faculty Data Sheet

Name: Dr. T. Jeff Chandler Rank: Professor

Status (Check one): Full-time X Part-time_____ Adjunct _____ Current MU Faculty: Yes ___ No _X_

Highest Degree Earned: Ed.D Date Degree Received: 1986

Conferred by: Auburn University

Area of Specialization: Exercise Science/Exercise Physiology

Professional Registration/Licensure CSCS; NSCA-CPT Agency National Strength & Cond. Assoc.

Years non-teaching experience	12
Years of employment other than Marshall	22 prior to 2006
Years of employment at Marshall	6.5
Years of employment in higher education	6.5 prior to 2006
Years in service at Marshall during this period of review	1

Year/Semester	Alpha Des. & No.	Title	Enrollment
Summer 2005	PE 321 PE 585 PE 585 PE 586 PE 642	Kinesiology Independent Study Independent Study Independent Study Training and Conditioning Programs	12 3 4 3 7
Fall 2005	PE 321 PE 485 PE 486 PE 585 PE 586 PE 642	Kinesiology Independent Study Independent Study Independent Study Independent Study Training and Conditioning Programs	28 4 3 4 1 16
Spring 2006		Resigned from Marshall in Dec. 2005	

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.

- **Chair, Scientific Committee, Society of Tennis Science and Medicine.**
- **Editor in Chief, Strength and Conditioning Journal, National Strength and Conditioning Association.**
- **Member and Fellow, National Strength and Conditioning Association**
- **Member and Fellow, American College of Sports Medicine**
- **Member, Southeastern American College of Sports Medicine**
- **Member, West Virginia State Association of Health, Physical Education, and Recreation**
- **Dean's Cabinet, College of Education and Human Services, Marshall University.**
- **Council of Chairs, Marshall University.**

3) Discipline-related books/papers published (provide a full citation).

(NOTE: both of the books below including the two book chapters were in progress while I was at Marshall University even thought publication dates are later.)

- **BOOK:** Strength and Conditioning for Human Performance, 2008, T. Jeff Chandler, Lee E. Brown, Editors. Lippincott, Williams, and Wilkins.
- **BOOK CHAPTER**: Chapter 1. Bioenergetics, T Jeff Chandler and Eric Arnold, Strength and Conditioning for Human Performance; Lippincott, Williams, and Wilkins. 2008.
- **BOOK CHAPTER**: Chapter 4, The Skeletal System, T. Jeff Chandler and Clint Alley, Lippincott, Williams, and Wilkins. 2008.
- **BOOK**: Tennis Training, Enhancing On-court Performance. Mark Kovacs, W. Britt Chandler, T. Jeff Chandler, Racquet Tech Publishing, Vista, California, September, 2007.

4) Papers presented at state, regional, national, or international conferences.

- December, 2005, "Practical Periodization" Alabama State Association of Health, Physical Education, and Recreation. Birmingham, AL.
- January, 2006, Poster Presentation at Southeast American College of Sports Medicine in Charlotte, NC, February 9-11: Excess postexercise oxygen consumption and interval training. Charlotte, NC **(FROM DATA COLLECTED AT MARSHALL IN 2005)**
- February, 2006. "Periodization for Juniors", with Mark Kovacs, Professional Tennis Registry International Symposium, Hilton Head, SC. International meeting. **(Invited to give talk and prepared talk while at Marshall).**
- February, 2006. "Stretching to Enhance Performance and Recovery"**,** with Mark Kovacs, Professional Tennis Registry International Symposium, Hilton Head, SC. International meeting. (**Invited to give talk and prepared talk while at Marshall).**

5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.

- **Chair, Scientific Committee, Society of Tennis Science and Medicine.**
- **Editor in Chief, Strength and Conditioning Journal, National Strength and Conditioning Association.**
- **Member and Fellow, National Strength and Conditioning Association**
- **Member and Fellow, American College of Sports Medicine**
- **Member, Southeastern American College of Sports Medicine**
- **Member, West Virginia State Association of Health, Physical Education, and Recreation**

6) Externally funded research grants and contracts you received.

Contract/funding for Editorial Office of Strength and Conditioning Journal, $80,000/year.

7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.

Named one of the first Fellow's of the NSCA in 2007 (Based in part on work performed while at Marshall University)

8) Community service as defined in the *Greenbook*.

Appendix II
Faculty Data Sheet
(for the period of this review)

Name: _Ronda Sturgill_____ Rank: Associate Professor_____

Status (Check one): Full-time__x___ Part-time_____ Adjunct ____Current MU Faculty: Yes _x__ No ___

Highest Degree Earned: __PhD_____ Date Degree Received: 2003_____

Conferred by: _The University Of Alabama_____

Area of Specialization: _Health Education/Health Promotion_____

Professional Registration/Licensure_ATC, CHES_____ Agency: National Athletic Trainers Association, National Commission for Health Education Credentialing

Years non-teaching experience	___0_____
Years of employment other than Marshall	___1_____
Years of employment at Marshall	___4_____
Years of employment in higher education	___4_____
Years in service at Marshall during this period of review	___4_____

Year/ Semester	Alpha Des. & No.	Title	Enrollment
Fall 2006	HS 220-101	Personal Health I	112
Fall 2006	HS 481-101// ESS 410 -101 Team Taught 50%	Sp.Tp. Administration Strategies in Athletic Training and Administration of Health and Physical Education	21
Fall 2006	HS 321-101	The School Health Program	9
Fall 2006	HS 255-101 Team Taught 50%	Athletic Training Clinical Experience 1	4
Fall 2006	HS 361-101 Team Taught 50%	Athletic Training Clinical Experience 3	1
Fall 2006	HS 460-101 Team Taught 50%	Athletic Training Clinical Experience 4	2
Fall 2006	UNI 101-1EE	New Student Seminar	13
Spring 2007	HS 220-201	Personal Health I	121
Spring 2007	HS 255-201 Team Taught 50%	Athletic Training Clinical Experience 1	3
Spring 2007	HS 360-201 Team Taught 50%	Athletic Training Clinical Experience 2	4
Spring 2007	HS 460-201 Team Taught 50%	Athletic Training Clinical Experience 4	1
Spring 2007	HS 215-202 Team Taught 50%	Introduction to Athletic TraIning	22
Spring 2007	HS 321/582-201	The School Health Program	25
Spring 2007	UNI 101-208	New Student Seminar	15
Summer 2007	ESS 410-301/HS580	Administration of Health and Physical Education	17
Summer 2007	HS 220-401	Personal Health I	20
Summer 2007	HS 430/530-501	Current Issues In Health and Physical Activity	16
Fall 2007	HS 220-101	Personal Health I	81
Fall 2007	ESS 410 -101/HS581	Administration of Health and Physical Education	28
Fall 2007	HS 360-101 Team Taught 50%	Athletic Training Clinical Experience 2	2
Fall 2007	HS 460-101 Team Taught 50%	Athletic Training Clinical Experience 4	4

Fall 2007	UNI 101-101	New Student Seminar	21
Spring 2008	HS 220-201	Personal Health I	81
Spring 2008	HS 321	The School Health Program	12
Spring 2008	UNI 101	New Student Seminar	16
Summer 2008	HS 220	Personal Health I	21
Summer 2008	HS 221	Personal Health II	44
Summer 2008	HS 430/530	Current Issues In Health and Physical Activity	8

2) Activities that have enhanced your teaching and or research.
Writing Across Curriculum Intensive Instructor; Organized and attended Monthly Online VISTA Users Group; Attended various conferences at state, regional, national, and international level

3) Discipline-related books/papers published (provide a full citation).
Sturgill, R., Barnett, L., & Barnett, R. (2007). *Combating Youth Violence Through Anti-Violence Coalitions in Three West Virginia Counties.* Manuscript submitted for publication
McIlvain, G., **Sturgill, R.**, & Martin, D. (2006). Being prepared for a medical emergency. *Journal of Physical Education and Recreation (Hong Kong)*, *12*(1), 58-62.

4) Papers presented at state, regional, national, or international conferences.
- **Sturgill, R.** (June 2008). A Collaborative Model for Managing Online Instruction at the University Level. Presentation accepted at International Council for Innovation in Higher Education Annual Conference. Prague, Czech Republic.
- **Sturgill, R.,** Barnett, L., & Barnett, B. (November 2007). Building Cooperative Relationships Between an Evaluator and a Client. Workshop Presentation at Share the Vision: West Virginia's Annual Prevention Conference. Charleston, West Virginia.
- Herinckx, H., Barnett, L, & **Sturgill, R.** (October 2007). How to make evaluation useful. Invited Presentation at the Youthful Offender Re-entry Program Annual Center for Substance Abuse Treatment Conference. Westminster, Colorado.
- **Sturgill, R.,** Barnett, L, & Barnett, B. (March 2007). A Rural Substance Abuse Treatment Program for Young Offenders. Presentation at the Appalachian Studies Conference. Maryville, Tennessee.
- **Sturgill, R.** & Zimmerman, E. (February 2007). Mentoring in Athletic Training Education. Poster Presentation at the West Virginia AthleticTrainers Association Annual Sports Medicine Conference. Charleston, West Virginia.
- **Sturgill, R.** & Meadows, A. (February 2007). Preparing for the BOC Exam.Presentation to Student Athletic Trainers at the West Virginia AthleticTrainers Association Annual Sports Medicine Conference. Charleston, WestVirginia.
- Martin, D., McIlvain, G., & **Sturgill, R.** (January 2007). Functional Lung and Heart Evaluation. Workshop Presentation at the Tennessee Athletic Trainers Society Annual Meeting. Jackson, Tennessee.

5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.

Treasurer, West Virginia Athletic Trainers Association, 2007-Present; Member, West Virginia Athletic Trainers Association, 2005-Present; Section Chair of Sports/Athletics – West Virginia Association for Health, Physical Education, Recreation and Dance, 2005-2007;Member, West Virginia Association for Health, Physical Education, Recreation ,and Dance, 2005-Present; Attended CSAT National Conference, Appalachian Studies Conference, WVATA, TATS, Share the Vision Conference, International Council for Innovation in Higher Education Annual Conference

7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
- **Sturgill, R.** (May 2008). Identification and Management of Head Injuries. Invited Presentation at the Family Nurse Practitioners Annual Conference. Huntington, West Virginia.
- **Sturgill, R.** (May 2007). Management of Sports Related Injuries. Invited Presentation at the Family Nurse Practitioners Annual Conference. Huntington, West Virginia.

Recipient of Marshall University Distinguished Artists and Scholars Award for Junior Faculty, 2008
Recipient of Marshall University College of Education and Human Service Excellence in Service Award, 2008
Young Professional Award for WVAHPERD, 2007
Marshall University Pickens-Queen Teaching Award, 2007
Honored as Online Faculty Member at Marshall University, November 2006

8) Community service as defined in the *Greenbook*.
Barnett Child Care Annual Book Sale ; Hospice of Huntington Volunteer Program Evaluator for A.D. Lewis After School Mentoring Program and Fun Time Saturday Program (2006, 2007); Girl Scouts Discovery and Dreams Program (2005-Present);***ROCS*** Youthful Offender Reentry Program (2004- Present)

Appendix II
Faculty Data Sheet

Name: Charles Eric Arnold Rank: Assistant Professor

Status (Check one): Full-time __X___ Part-time_____ Adjunct _____ Current MU Faculty: Yes _X__ No ___

Highest Degree Earned: Ph.D. Date Degree Received: ___8/15/08__

Conferred by: Georgia State University

Area of Specialization: Exercise Physiology

Professional Registration/Licensure_____ Agency: _____

Years non-teaching experience 3
Years of employment other than Marshall 8
Years of employment at Marshall 4
Years of employment in higher education 4
Years in service at Marshall during this period of review 4

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. *(Expand the table as necessary)*

Year/Semester	Alpha Des. & No.	Title	Enrollment
2006/Spring	PE 345	Physiology of Exercise	71
2006/Spring	PE 375	Evaluating Fitness	48
2006/Spring	PE 601	Advanced Exercise Testing	26
2006/Summer	PE 642	Devising and Training Conditioning Programs	13
2006/Fall	ESS 345	Physiology of Exercise	65
2006/Fall	ESS 478/578	Energy Sources, Body Composition, and Performance	44
2006/Fall	ESS 621	Scientific Aspects of PE	29
2007/Spring	ESS 345	Physiology of Exercise	86
2007/Spring	ESS 601	Advanced Exercise Testing	17
2007/Spring	ESS 642	Devising and Training Conditioning Programs	30
2007/Summer	ESS 345	Physiology of Exercise	18
2007/Fall	ESS 345	Physiology of Exercise	56
2007/Fall	ESS 621	Scientific Aspects of PE	24
2008/Spring	ESS 345	Physiology of Exercise	72
2008/Spring	ESS 478/578	Energy Sources, Body Composition, and Performance	36
2008/Spring	ESS 601	Advanced Exercise Testing	16

1) If your degree is not in your area of current assignment, please explain.

(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)

2) Activities that have enhanced your teaching and or research.

Research: My passion is research utilizing the tools of molecular biology to answer exercise physiology related questions

pertaining to exercise and type 2 diabetes. The opportunity to be a part of the Robert C. Byrd Biotechnology Center and the Laboratory of Molecular Physiology with Dr. Eric Blough is paramount for research productivity in the exercise sciences. Dr. Blough and I share high ambitions for the relationship between exercise science and biological sciences. The relationship is highly integrated and follows the plan and ideas of Dr. Stephen Kopp. If the exercise sciences are going to survive, the integration of molecular biology with exercise science is a necessity at Marshall University. My fundamental goal in research is to put Marshall University on the map in exercise science research and I am determined to do whatever it takes to accomplish that task. Secondly, I trained under the guidance of Peter J. Reiser, Ph.D., Professor and Director of the Muscle Biophysics Laboratory in the College of Dentistry in the Department of Oral Biology at The Ohio State University in the Spring semester of 2008. Dr. Resier trained me in an area of molecular biology (e.g., Polyacrylamide Gel Electrophoresis) dealing with the separation of myosin heavy chain isoforms (e.g., muscle physiology). Dr. Reiser and I have developed a collaborative working research relationship.

My current research is studying the effect of mechanical overload on cell signaling molecules (e.g., mTOR, AKT, $p70^{s6k}$) utilizing the Obese Zucker Rat ($Lepr^{fa}$). The OZ rat is an animal model that displays characteristics of type 2 diabetes and in particularly insulin resistance. The cell signaling molecules are implicated in skeletal muscle growth and the objective is to determine if insulin resistance alters the level of expression of these molecules.

3) Discipline-related books/papers published (provide a full citation).

Co-Author: Book Chapter. Chapter I: Bioenergetics. (pgs. 3-19)
Conditioning for Strength and Human Performance.
Editors: T. Jeff Chandler and Lee E. Brown
Lippincott Williams & Wilkins, 2007

4) Papers presented at state, regional, national, or international conferences.

1. **Arnold, CE.,** Blough ER., Ingalls CP., Rupp JC., Kakarla S., Gutta A.,Doyle JA.
"Mechanical Overload Induced Skeletal Muscle Plasticity in the Obese Zucker Rat ($Lepr^{fa}$)"
Integrative Biology of Exercise Conference
American Physiological Intersociety Meeting
Hilton Head, SC: September 26, 2008.

2. Asano S., Chandler TJ., **Arnold CE.,** Mak J., Shepherd T
Excess Post Oxygen Consumption and Interval Training.
Southeast Chapter of the American College of Sports Medicine
Charlotte, NC: February 9-11, 2006

5) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.

Member: American College of Sports Medicine
Southeast Chapter of the American College of Sports Medicine
Tristate Endocrine Society, Marshall University School of Medicine
Cell Differentiation and Development Center, Robert C. Byrd Biotechnology Science Center, Marshall University

6) Externally funded research grants and contracts you received. NA

7) Awards/honors (including invitations to speak in your area of expertise) or special recognition. NA

8) Community service as defined in the *Greenbook*.

Member: Leadership Council of the Huntington/Ashland American Diabetes Association

Appendix III

Appendix III is not applicable.

Appendix IV

Appendix IV is not applicable.

Appendix V
Program Course Enrollment

Course Number	COURSE NAME	REQUIRED/ ELECTIVE	YEAR 1 2003-2004			YEAR 2 2004-2005			YEAR 3 2005-2006			YEAR 4 2006-2007			YEAR 5 2007-2008		
			SU	FA	SP	SU	FA	SP	SU	FA	SP	SU	FA	SP	SU	FA	SP
PE/ESS 578	Energy Sources, Body Comp. & Performance	*		18			11			12			10			0	11
PE/ESS 585	Independent Study	*	6	2		7	4		7	4		4	6		1	3	
PE/ESS 586	Independent Study	*	2	3		1	1		3	1		3	2		2	0	
PE/ESS 587	Independent Study	*	1		12							0		5	1		2
PE/ESS 588	Independent Study	*			5			12			4			1			
PE/ESS 601	Advanced Exercise Testing	*			26			16			26			17			16
PE/ESS 621	Scientific Aspects of PE	*		28			30			29			29			24	
PE 636	Structural Kinesiology																
PE/ESS 642	Training and Conditioning Programs	1		27		9	14		7	16		13		30			
PE /ESS 660	Internship	*	9	4	11	9	0	4	10	5	11	7	2	16	4	5	6
PE/ESS 670	Research in Physical Education	*	9	24	15	17	20		11	31		18	25		16	22	
PE/ESS 681	Thesis	*	1	1	3	1	2	2		1	1	0	0	0	0	0	0
PE/ESS 682	Health Promotion, Disease Prev. & Rehab.	*			17			13			13			8			11
ESS 683	Cardiovascular Assessment	*		23			19			19			19			14	
PE/ESS 684	Developing Exercise, Nut. & Behavioral Rx	*			18			17			19			14			9

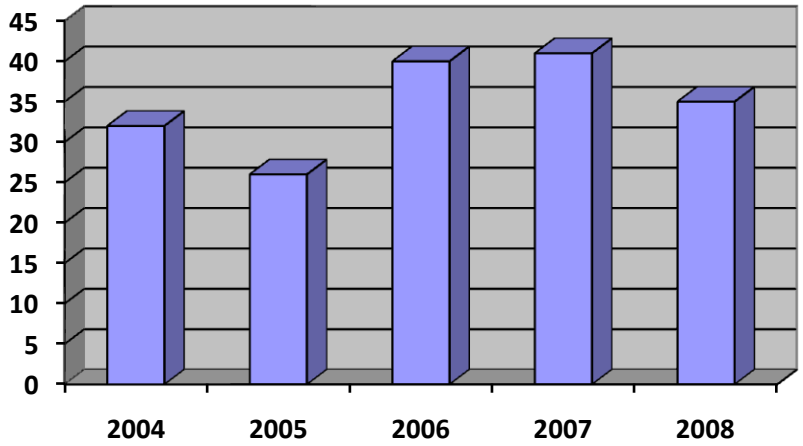
PE/ESS 685	Develop. /Adm. Prev. & Rehab. Med. Programs	*		5			8			12			13			11	
PE/ESS 687	Cardiac Life Support	*		8			23			22			14			20	
PE 646	Athletic Training I	1															
HE 640	Health Assessment II	1															

1 These courses may be substituted for some required courses.

Appendix VI
Program Enrollment

Students	Year 1 2003-2004	Year 2 2004-2005	Year 3 2005-2006	Year 4 2006-2007	Year 5 2007-2008
New Students Admitted	16	11	15	16	17
Majors Enrolled	32	26	40	41	35
Athletic Training Area of Emphasis	√	√	1	7	9
Exercise Physiology Area of Emphasis	13	8	18	15	10
Clinical Applied Area of Emphasis	12	12	17	18	14
No area selected	7	6	4	1	2
Grand Total of Students Enrolled in the Program	**32**	**26**	**40**	**41**	**35**
Graduates of the program	12	10	18	26	15

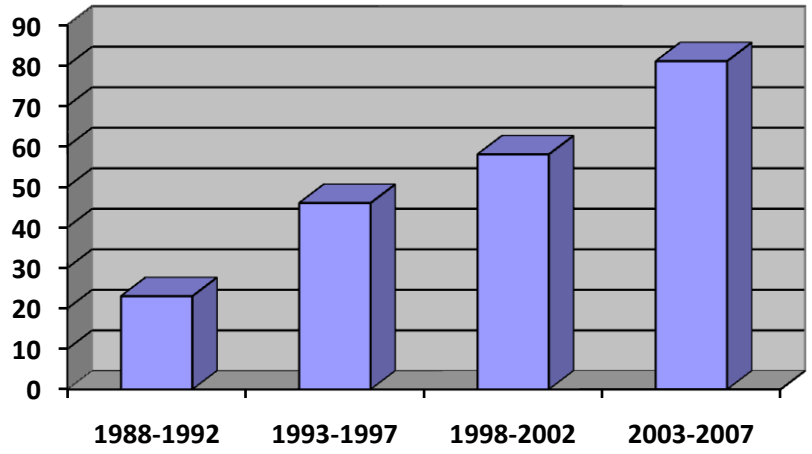
APPENDIX VI-A1 Figure.
PROGRAM ENROLLMENT BY YEAR
IN THIS 5-YEAR REPORTING CYCLE



APPENDIX VI-A2 Table
20 – YEAR GRADUATION SUMMARY

	1988-1992	1993-1997	1998-2002	2003-2008	20-Year Total
Graduates	23	46	58	81	208

APPENDIX VI-A3 Figure.
20-YEAR SUMMARY OF EXERCISE SCIENCE GRADUATES
BY FIVE-YEAR REPORTING CYCLES



APPENDIX VII

SELECTED PUBLICATIONS, PRESENTATIONS, PROJECTS, AND DOCUMENTS OF RECENT MASTER OF SCIENCE EXERCISE SCIENCE GRADUATES

I. Lisa A. Marsh, M.S., ATC, FAACVPR
Director
Health Management Services
Mountain State Blue Cross/Blue Shield
Charleston WV

SELECTED PRESENTATIONS AND PUBLICATIONS

Sept. 2008 "Cardiac Rehabilitation Engagement in an Insured Population."
2008 Annual Meeting. American Association of Cardiovascular & Pulmonary Rehabilitation, Salt Indianapolis, IN: September 20, 2008

June 2008 "Mountain State Quality Management Update" presented to Highmark Board Quality Improvement Committee (BQIC). Pittsburgh, PA. June 12, 2008.

May 2008 "Using Outcome Results to Improve Health Status & Manage Populations"
7th Annual Network Conference, Community Health Networks of WV. Charleston, WV.
May 8, 2008.

March 2008 "Health Services Strategic Planning Update" presented to Mountain State Board of Director's, Parkersburg, WV. March 10, 2008.

Jan. 2008 "Medical Policy Overview: What the Provider Needs to Know" presented to the Mountain State Provider Advisory Committee. Charleston, WV. January 26, 2008.

Jan. 2008 "Health Services Overview and Quality Management Update" presented to URAC (Utilization Review Accreditation Commission) Reviewers. January 10, 2008.

Oct. 2007 "A Study of Cardiac Patients in a Community-Based Program."
2007 Annual Meeting. American Association of Cardiovascular & Pulmonary Rehabilitation, Salt Lake City, Utah: October 20, 2007

Sept. 2007 "Rationale for Disease Management & Preventive Health Services in the Insurance Industry" presented to

Mountain State Blue Cross Blue Shield Executive Team. September 19, 2007.

June 2007 "Mountain State Quality Management Overview" presented to Highmark Board Quality Improvement Committee (BQIC). Pittsburgh, PA. June 21, 2007.

May 2007 "Preventive Health, Disease Management & Wellness: An Overview of Mountain State Services" presented to the Mountain State Provider Advisory Committee. Stonewall Jackson Resort, Roanoke, WV. May 4, 2007.

Sept. 2006 "Impact of Cardiac Rehabilitation on the Economic Domain".
2006 Annual Meeting. American Association of Cardiovascular & Pulmonary Rehabilitation, Charleston, WV: September 15, 2006

Oct. 2005 "Benefit of Cardiac Rehabilitation for the Metabolic Syndrome and Related Variables in Patients with Comorbid Diabetes Mellitus".
19th Annual Meeting, American Association of Cardiovascular and Pulmonary Rehabilitation
Milwaukee, WI

Sept. 2005 "Benefit of Cardiac Rehabilitation for the Metabolic Syndrome and Related Variables in Patients with Comorbid Diabetes Mellitus".
Journal of Cardiopulmonary Rehabilitation, 2005; 25: 365.

Nov. 2004 "The Role of Exercise in Prevention & Treatment of Diabetes"
18th Annual Family Practice Weekend and Sports Medicine Conference
Huntington, WV

Oct 2004 Benchmarking Outcomes for Type 2 Diabetes Patients in a Cardiac Rehabilitation Program"
19th Annual Meeting, American Association of Cardiovascular and Pulmonary Rehabilitation
Long Beach, CA

Sept. 2004 "Benchmarking Outcomes for Type 2 Diabetes Patients in a Cardiac Rehabilitation Program"
Journal of Cardiopulmonary Rehabilitation, 2004; 24:348

May 2004 "Clinical Outcomes for Type 2 Diabetes Patients in Cardiac Rehabilitation Program"
Diabetes Prevention and Control, CDC Diabetes Translation Conference 2004
Chicago, Illinois

Nov. 2004 Cardiac Rehabilitation Programs Beneficial for Patients with Diabetes.
Endocrine Today 2004; [Number 7]: 35.

May 2004 "What the WVACVPR Can Do For You"
12th Annual Conference WV Association of Cardiac & Pulmonary Rehabilitation.

May 2004 "Research in the Clinical Setting"

Marshall University Graduate School

Oct 2003 "Managing the Type 2 Diabetes Patient in Cardiac Rehabilitation"
18th Annual Meeting, American Association of Cardiovascular and Pulmonary Rehabilitation
Kansas City, Missouri

June 2003 "How to Develop an Outpatient Diabetes Exercise Program"
Cardiovascular Health in Appalachia: Partnering for Change
Sponsored by St. Mary's Medical Center

May 2003 "Exercise & Heart Failure
11th Annual Conference WV Association of Cardiac & Pulmonary Rehabilitation

PROFESSIONAL LEADERSHIP POSITIONS AND COMMITTEES

- West Virginia Health System Redesign Workgroup
- West Virginia Health Improvement Institute Committee
- Multipayer Chronic Condition Management Committee
- Multipayer Chronic Condition Management Committee (Pediatric Obesity Workgroup)
- Multipayer Chronic Condition Management Committee (Diabetes Management) Workgroup)
- WV Health Care Authority C-Section Quality Management Committee
- Health Policy & Reimbursement Committee
  American Association of Cardiovascular & Pulmonary Rehabilitation [AACVPR]
- Fellow, AACVPR
- President, WVACVPR, 2003-2004

II. Brian George, M.S., CEP, MBA
Administrative Resident
Department of Surgery
The Johns Hopkins Hospital
Baltimore MD

RECENT PUBLICATIONS

1. Kerry J Stewart, **Brian H George**, Kristina Potrekus, Anita C Bacher, Harry A Silber, Nae-Yuh Wang, Edward P Shapiro, and Pamela Ouyang. Abstract 3555**:** *Increased Fatness and Reduced Fitness are Associated with Aortic Stiffness in Persons with Type 2 Diabetes and Hypertension.* ***Circulation*** 116: October **2007** II_804-c

2. Stewart, Kerry J. EdD; **George, Brian H. MS**; Potrekus, Kristina MS; Bacher, Anita C. MSN; Shapiro, Edward P. MD ; Wang, Nah-Yuh PhD; Ouyang, Pamela MD. *Relationship of Fitness, Abdominal Obesity, and Blood Pressure with Aortic Stiffness in Persons with Type 2 Diabetes and Hypertension.* ***Journal of Cardiopulmonary Rehabilitation*****.** 26: 254, **2006.**

III. DE'SHAUN DRAKE, M.S.
Clinical Research Associate
Pharmaceutical Product Development
PPD, Inc. San Diego CA

ABSTRACT

- **D. Drake**, E.E. Lower, MD, D.B. Winget and R.P. Baughman, MD. Value of Six Minute Walk Distance in Predicting Mortality in Various Interstitial Lung Diseases. Presented to the American Thoracic Society International Conference, San Diego CA, May 2, 2006.

CLINICAL TRIAL EXPERIENCE

1. CLINICAL TRIALS & INVESTIGATOR PROJECTS/DOCUMENTS 2007-2008

- A Placebo-Controlled, Double Blind, Multicenter, Randomized, Phase II Study of Bevacizumab in Previously Untreated Extensive-Stage Small Cell Lung Caner. Principle Investigator: Laurie Carr, MD. Genentech, Inc. Jane Huang, MD.
- An open-label Phase II trial to investigate the efficacy, safety, and pharmacokinetics of a single dose of 200 mg i.v. BI 2536 BS administered every 21 days in patients with sensitive relapse small cell lung cancer. Principle Investigator: Keith Eaton, MD PhD. Boehringer Ingelheim Pharmaceuticals Inc. Mark A. Socinski, MD.
- Double-blind, Randomized, Placebo-controlled Phase III Study to Assess Efficacy of recMAGE-A3 + AS15 as Adjuvant Therapy in Patients with Resectable MAGE-A3-positive Non-Small Cell Lung Cancer. Principle Investigator: Keith Eaton, MD PhD. GlaxoSmithKline Biologicals. Vincent Brichard, MD, PhD.
- A Multi-center, Randomized, Double-blind, Placebo-controlled, Phase III Study of Single-agent Tarceva (erlotinib) Following Complete Tumor Resection with or without Adjuvant Chemotherapy in Patients with Stage IB-IIIA Non-small Cell Lung Carcinoma who have EGFR-positive Tumors. Principle Investigator: Keith Eaton, MD, PhD. OSI pharmaceuticals. Maureen Conlan, MD.
- A Phase II Randomized Study of Tarceva (Erlotinib) as a Single Agent or Intercalated with Combination Chemotherapy in Patients with Newly Diagnosed Advanced Non-small Cell Lung Cancer who have Tumors with EGFR Protein Over expression and/or Increased EGFR Gene Copy Numbers. Seattle, WA Sept 2006, Principle Investigator: Renato Martins, MD, MPH. OSI pharmaceuticals. Pablo J. Cagnoni, MD.
- A Phase II Study of Intermittent Gleevec (Imatinib mesylate) and Weekly Paclitaxel in Patients Aged 70 or Older with Advanced Non-small Cell Lung Cancer, Seattle, WA Sept 2006, Investigator Initiated: Julie Bauman MD MPH.

2. CLINICAL TRIAL EXPERIENCE COMPLETED PRIOR TO CURRENT POSITION AT PPD

- A Placebo-Controlled, Double Blind, Multicenter, Randomized, Phase II Study of XXX in Previously Untreated Extensive-Stage Small Cell Lung Caner. Principal Investigator: Laurie Carr, MD.
- An open-label Phase II trial to investigate the efficacy, safety, and pharmacokinetics of a single dose of XXX days in patients with sensitive relapse small cell lung cancer. Principal Investigator: Keith Eaton, MD PhD.

- Double-blind, Randomized, Placebo-controlled Phase III Study to Assess Efficacy of XXX as Adjuvant Therapy in Patients with Resectable MAGE-A3-positive Non-Small Cell Lung Cancer. Principal Investigator: Keith Eaton, MD PhD
- A Multi-center, Randomized, Double-blind, Placebo-controlled, Phase III Study of Single-agent XXX Following Complete Tumor Resection with or without Adjuvant Chemotherapy in Patients with Stage IB-IIIA Non-small Cell Lung Carcinoma who have EGFR-positive Tumors. Principal Investigator: Keith Eaton, MD, PhD.
- A Phase II Randomized Study of XXX as a Single Agent or Intercalated with Combination Chemotherapy in Patients with Newly Diagnosed Advanced Non-small Cell Lung Cancer who have Tumors with EGFR Protein Over expression and/or Increased EGFR Gene Copy Numbers. Seattle, WA Sept 2006, Principal Investigator: Renato Martins, MD, MPH.
- A Phase II Study of Intermittent XXX and Weekly XXX in Patients Aged 70 or Older with Advanced Non-small Cell Lung Cancer, Seattle, WA Sept 2006, Investigator Initiated: Julie Bauman MD MPH.

CLINICAL LECTURES

- PPD Clinical Foundation Program: Global Learning and Performance. Raleigh, NC. March 2008.
- American Society of Clinical Oncology: Translating Research into Practice. Chicago, IL June 2007.
- Association of Clinical Research Professionals: Global Conference & Exhibition. In conjunction with the Academy of Pharmaceutical Physicians and Investigators. Seattle, WA. April 2007.
- American Thoracic Society: An international professional and scientific society for respiratory and critical care medicine. San Diego, CA. May 2007.

IV. Thomas M. Miller, III, M.S.
Medical Center Supervisor
University of Virginia Health System
Charlottesville VA

PUBLICATION

Taylor, A.M., McNamara, C.A., Hedelt, A., Chaney, C., Perry M.L., **Miller III, T.M.**, Tyler, K.D., McCall, A.L. (2005). Outcomes of a multidisciplinary team approach to cardiovascular risk reduction in patients with diabetes mellitus. *Therapy*, 2(4): 1-9.

HEALTH CARE AND WELLNESS NEWSPAPER ARTICLES

Currently posted on UVA-WorkMed Website: "Wellness: A Continuum", "Obesity in America", "Health and Wellness Programs Provide Return on Employer Investment", Charlottesville Daily Progress-- "Low Back Health"--ran in 2006, Colleton County, SC Press and Standard, "There's No Such Thing as Drive-Thru Health", "What is a Heart Attack, Exactly?", "Don't Ignore the Tell-Tale Signs of a Heart Attack", "As for your Body, Use It or Lose It", "Heart Muscle can Work Better, More Efficiently by Engaging in Cardiovascular Conditioning", "High Levels of Cholesterol Can Affect the Heart".--these ran at various times from 1999--2000.

CONFERENCE

Organized and directed an occupational health conference at the **University of Virginia Medical Center. "Maximizing Results Through Health, Safety, and Wellness."**
Charlottesville, VA 2007.

APPENDIX VIII

ASSESSMENT REPORT EVALUATIONS

MARSHALL UNIVERSITY
www.marshall.edu

Office of Assessment & Program Review

April 1, 2008

Dr. Dan Martin, Division Chair
ESSR
COEHS

Dear Dan,

The Graduate Council and I have completed our evaluation of the annual program assessment report for the MS in Exercise Science. This letter will provide feedback in the following manner. First, I will comment generally on each section of your report. Second, I will rate the following areas of the report on a four point scale (0 – 3, with 3 being the highest rating): student learning outcomes, assessment measures, and the feedback loop. Although I considered feedback from committee members, I made the final decision on ratings for all reports submitted. Third, I will offer suggestions for your consideration as you plan your assessment for the 2008-2009 academic year. Fourth, I will include my evaluation using the Primary Traits Analysis rubric and will include reviewers' comments for your information.

General Comments

This report nicely describes the program. There appears to me to be a lot of overlap between the student academic achievement program goals and the student learning outcomes. I might suggest combining the two to arrive at a manageable number of student learning outcomes (goals), which describe what students will be able to do when they complete the program. Below are some suggestions:

Upon completion of the MS in Exercise Science, students will be able to

1. Apply knowledge in the field of exercise science to solve clinical problems.
2. Analyze the current research literature and use pertinent findings to make clinical decisions.
3. Skillfully use technical and laboratory equipment as appropriate.
4. Choose appropriate evidence-based therapeutic interventions, based on clients' specific needs.
5. Skillfully administer appropriate evidence-based therapeutic interventions, based on clients' specific needs.
6. Assess the validity and reliability of research data in the field.
7. Communicate effectively, in the discourse of the discipline, orally, in writing and through the use of technology.

These are suggestions only, but are meant to show you the type of wording that can be used to make sure assessment involves evaluating what students can do that reflects higher levels of thinking. Also, while students' entering abilities, e.g. undergraduate GPA, are important, they are measures of a student's potential to succeed in your program, not measures of student learning in your program.

MS in Exercise Science

Regarding your assessment summary chart, graduate and employer satisfaction are not student learning outcomes, but rather responses to specific questions on these surveys provide useful indirect data of student learning. Courses are not appropriate assessment tools and successful completion of coursework is not an appropriate benchmark. The reason for this is that, because courses target more than one student learning outcome, simply saying that all students passed a course does not give you useful information regarding specific strengths and weaknesses regarding each outcome. Also, course grades are often influenced by factors other than student learning, e.g. lateness of work, class attendance, etc. Performance on the comprehensive exam in the Master's program is an appropriate assessment tool, but I would recommend that you report results by outcome rather than holistically.

Ratings for Student Learning Outcomes, Assessment Measures, and the Feedback Loop

Student Learning Outcomes = 3. This rating was given because your student learning outcomes are comprehensive, for the most part measurable, support Marshall's educational goals, and span multiple learning domains. I would, however, suggest some of the rewording mentioned above.

Assessment Measures = 2. This rating was given because some appropriate measures, which were both direct (e.g. comprehensive exam, internships, literature reviews) and indirect (student and employer satisfaction surveys) were identified and they relate to student learning outcomes. To move to level 3, you need to tie your measures more directly to specific student learning outcomes and show that your measures allow learning to be assessed over time.

Feedback Loop = 2. This rating was given because you did show that you made program changes based on the results of surveys. To move to level 3, you also should incorporate data from direct assessments of student learning and make curricular changes based on identified student strengths and weaknesses.

Suggestions to Consider as you plan your assessment strategies for the 2008-2009 academic year

I recommend that you begin by coming to a faculty consensus on the wording of your student learning outcomes. Then, decide which outcomes you want to assess during the 2008-2009 academic year. It is perfectly acceptable and encouraged to assess only a portion of your student learning outcomes each year. So, you may choose to do an in-depth assessment of the first two outcomes during year 1. If this is done using several assessment measures with detailed rubrics, you will be able to collect detailed data regarding the outcomes. These data should allow you to identify specific strengths and weaknesses regarding student learning (and hence, your program). Changes to strengthen these areas of learning can be implemented the following year, while you assess two more outcomes. This will allow you to assess all outcomes on a three-four year rotation and will give you sufficient time to allow curricular modifications to have an effect before the next assessment.

I appreciate the work you are doing to make your assessment stronger. If I can be of additional help, please do not hesitate to contact me at 62987 or at reynoldm@marshall.edu.

Sincerely,

Mary Beth

Mary E. Reynolds
Interim Director of Assessment

C: Dr. Rosalyn Templeton, Executive Dean, COEHS

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Office of Academic Affairs

August 25, 2007

Dr. Dan Martin, Program Coordinator
Exercise Science
COEHS
Campus

Dear Dan,

The Subcommittee on Assessment Reports completed its review of your annual assessment report for the MS in Exercise Science and I concur with their analysis.

The MS in Exercise Science is performing at Level 3 (the highest level) in the area of Learning Objectives. This suggests that learning objectives are comprehensive, measurable, support Marshall's educational goals, and span multiple learning domains. If anything, there may be too many learning objectives! Also, the reviewers suggested that you avoid using the word "opinion." For example, in the first goal under **Curriculum Development**, the reviewers suggested that you substitute the word "standards."

The MS in Exercise Science is performing at Level 3 in the area of Assessment Measures. This suggests that the program emphasizes direct measures of student learning, that these measures focus on real-world tasks, that they stress higher order learning, and that they allow performance to be gauged over time.

In the area of the Feedback Loop, the MS in Exercise Science is performing lat Level 1. This suggests that data are being collected, but are not being interpreted or used to the extent they might be. It is commendable that you have used survey results to modify your program, but the benchmarks given for assessing student learning are vague and there is no indication as to how these outcomes were used to modify the curriculum if needed. Furthermore, student outcomes on the chart were not written in behavioral terms, although they were in the narrative.

If the Office of Assessment and Program Review can be of any assistance, please don't hesitate to call the new Director, Dr. Mary Beth Reynolds.

Sincerely,

Frances S. Hensley

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Associate Vice President for Academic Affairs

C: Dr. Rosalyn Templeton, Executive Dean, COEHS

Office of Program Review and Assessment,
Marshall University
Huntington, WV 25755-2003

To: Bill Marley, Program Director, Exercise Science
From: Bob Edmunds, Coordinator for Program Review and Assessment
Date: July 26, 2006

Yearly Assessment Report for: MS Exercise Science

Thank you for submitting the Yearly Assessment Report for the program. Please use the information in this report to guide your assessment activities during AY 2006-2007.

The Yearly Assessment Report for documenting AY 2005-2006 assessment activities is due by October 3, 2006. If the program is scheduled for a program review during the 2006-7 academic year, the Program Review will suffice as the documentation of assessment activities and no separate report will be due.

Reviewer summary of yearly assessment report:
What follows is a brief critique of the report you submitted for the academic year 2004-2005

Yearly Assessment Report Critique	
I. a. Program goals:	The unit has presented the program goals.
b. Learning outcomes and data collection:	The student outcomes have been listed along with faculty and curriculum guidelines. The unit has an impressive set of outcomes which help to define the program. The unit has collected some data, but has not presented any in the report.
c. Results:	The unit has collected data, but has not used specific analysis in support of any of the outcomes. The actions taken do not appear specific to this reader.
II. BOT Initiative #3:	Not applicable to graduate programs.
III. Plans for current year:	None listed
IV. Assistance needed:	None listed
V. Lessons learned:	None listed.

Review of the Assessment Summary Chart "Marshall University: Assessment of Student Outcomes."

This chart will help the program and the University Assessment Committee monitor a program's patterns of evidence. Please remember that a program does not have to assess every outcome every year; however, within a 3-4 year period of time all program objectives must be evaluated, results analyzed, and actions taken (feedback loop) documented.

The Unit presented an assessment summary chart. Outcomes #1, #8, & #9 do not appear to be measurable behavioral outcomes. Elsewhere in this document is a description of where these items should be placed. They are not outcomes. #1 is an input option and #8 and #9 are survey instruments the results of which would be necessary in the report. Specific analysis of the data is lacking, although general statements have

been made. The chart would be easier to prepare if these items were removed or repositioned. The unit could be a bit more specific in terms of standards and benchmarks if it would give specific requirements or indicators. "Successful completion of course work" is rather general and doesn't help the reader understand that the program is a quality program. How many students do well, etc.?

Efficacy of Assessment:

Programs are evaluated in terms of the development of measurable learning outcomes, the use of viable assessment measures, and the implementation of an effective feedback loop. The current report has been evaluated based on these categories. This year the report shows program scores from 2000-2001 to the present.

Scores					
Categories	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005
I. Learning Outcomes					3
II. Assessment Measures					3
III. Feedback Loop					2
Total Overall Score:					8
Level of Implementation (efficacy of assessment)					3

Score Ranges	
Score Ranges: 0-3 in each of the three categories	A score of 0 indicates minimum activity in the category
	A score of 1 indicates that a program is in the beginning stages of assessment
	A score of 2 indicates that a program is making progress toward implementing a viable assessment program
	A score of 3 indicates that a program is in the maturing stages of its assessment program

Levels of Implementation Efficacy of Assessment	
A total overall score between 0 and 3 indicates	Level 1: the program is in the beginning stages of its assessment of student academic achievement
A total overall score between 4 and 6 indicates	Level 2: the program is making progress toward implementing a viable assessment program
A total overall score between 7 and 9 indicates	Level 3: the program is in the maturing stages of continuous improvement of student academic achievement

Interpretation:

The Unit has an assessment process in place. There are 3 outcomes which are not directly related to student learning. Outcome #1 is an admissions requirement and Outcomes 8 & 9 are measuring tools. The program should incorporate the information gleaned from employer and student satisfaction surveys back into the program course work. The unit has a number of assessment measures, but no data have been

provided. The feedback loop is only partially described. The action taken column is not sufficiently descriptive of programmatic changes. The comments appear to be a bit vague to the average reader.

Recommendations:

The unit should revisit outcome #1 and put it in a category of its own. Entrance abilities cannot be manipulated by the program. Either the prospective student has the ability or doesn't have the ability. So put that in an input category and leave it out of the assessment summary chart. Also, outcomes #8 & #9 are indirect measuring instruments from which information can be gleaned and perhaps prove useful in program revisions and enhancements, but they are not outcomes. Use this data to support your programmatic decisions, along with the more direct methods of performance on particular projects and performance on the comprehensive examination. The unit should continue to collect data and make sure that it collects specific data which will support a particular outcome.

General Comments:

Thanks so much for continuing to aid Marshall in its ongoing assessment efforts.

Enclosures

MARSHALL UNIVERSITY
www.marshall.edu

05-026

Office of Program Review & Assessment

To: Dr. Bill Marley, Program Chair, Exercise Science
From: Bob Edmunds, Coordinator for Program Review and Assessment
Date: July 26, 2005

Yearly Assessment Report for: MS Exercise Science

Thank you for submitting the Yearly Assessment Report for the program. Please use the information in this report to guide your assessment activities during AY 2005-2006.

The Yearly Assessment Report for documenting AY 2004-2005 assessment activities is due by October 3, 2005. If the program is scheduled for a program review during the 2005-6 academic year, the Program Review will suffice as the documentation of assessment activities and no separate report will be due.

Reviewer summary of yearly assessment report:
What follows is a brief critique of the report you submitted for the academic year 2003-2004. In most cases the report has been reviewed by 3 members of the University Assessment Committee.

	Yearly Assessment Report Critique
I. a. Program goals:	Program goals were identified, both for students and faculty. Excellent.
b. Learning outcomes and data collection:	The learning outcomes for students, faculty development, curriculum and course were listed. One concern is that the curriculum review is based primarily on the use of student evaluations and surveys. There was no mention of student academic achievement artifacts in the area of curriculum development.
c. Results:	There were no results/analyses listed. General comments were given such as: "Number of student passing courses. Student performance on oral examinations." However, no specific results were listed, i.e., how many students performed adequately in classes, or what the results were for the oral examinations.
II. BOT Initiative #3:	Not applicable to graduate programs.
III. Plans for current year:	None listed
IV. Assistance needed:	None listed.
V. Lessons learned:	None listed

Review of the Assessment Summary Chart "Marshall University: Assessment of Student Outcomes."

This chart will help the program and the University Assessment Committee monitor a program's patterns of evidence. Please remember that a program does not have to assess every outcome every year; however, within a 3-4 year period of time all program objectives must be evaluated, results analyzed, and actions taken (feedback loop) documented.

The assessment summary chart is presented. However, the outcomes listed in the narrative and the outcomes listed on the chart do not match up. There are 6 student outcomes listed in the narrative and nine listed on the chart. The program needs to resolve this issue. Meaningful analysis cannot occur until this is resolved. Also, specific data and analysis need to begin to appear on the chart. Please remember that the program does not have to measure every outcome every semester, but should develop a reasonable time frame to analyze all of the outcomes during the typical time frame students use to complete the program, e.g. 4-6 semesters.

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Efficacy of Assessment:

As Marshal approaches its ten year self-study by the North Central Association's Higher Learning Commission, programs will be measured in terms of their efficacy of assessment. Programs are evaluated in terms of the development of measurable learning outcomes, the use of viable assessment measures, and the implementation of an effective feedback loop. The current report has been evaluated based on these categories. This year the report shows program scores from 2000-2001 to the present.

Scores:				
Categories	Scores			
	2000-2001	2001-2002	2002-2003	**2003-2004**
I. Learning Outcomes		1	1	**3**
II. Assessment Measures		1	2	**3**
III. Feedback Loop		0	2	**2**
Total Overall Score:		2.7	5	**8**
Level of Implementation (efficacy of assessment)	Assessment Plan Submitted	1	2	**3**

Score Ranges	
Score Ranges 0-3 in each of the three categories	A score of 0 indicates minimum activity in the category
	A score of 1 indicates that a program is in the beginning stages of assessment
	A score of 2 indicates that a program is making progress toward implementing a viable assessment program
	A score of 3 indicates that a program is in the maturing stages of its assessment program

Levels of Implementation Efficacy of Assessment	
A total overall score between 0 and 3 indicates	Level 1: the program is in the beginning stages of its assessment of student academic achievement
A total overall score between 4 and 6 indicates	Level 2: the program is making progress toward implementing a viable assessment program
A total overall score between 7 and 9 indicates	Level 3: the program is in the maturing stages of continuous improvement of student academic achievement
The goal is to have the majority of our programs in level 3 by May 2006.	

Interpretation:

The program has made remarkable strides in developing and implementing an assessment program. The program has not begun to utilize student academic achievement data or other data to make changes in the program.

Recommendations:

The program should resolve the differences between the stated learning outcomes in the narrative of the report and the assessment summary chart. The program should begin to collect specific artifacts from student academic achievement (direct evidence), as well as the data from surveys and evaluations (indirect evidence) and use these data as a basis on which to make programmatic decisions.

General Comments:

It is imperative that programs maintain a record of their assessment activities and have this information available for the NCA/HLC site committee if requested.

Thanks so much for continuing to aid Marshall in its ongoing assessment efforts.

Enclosures

MARSHALL UNIVERSITY
Office of Program Review & Assessment
400 Hal Greer Boulevard
Huntington, West Virginia 25755-2003
304/696-2494 Fax: 304/696-6612

04-05

To: Bill Marley, Program Director, Exercise Science
From: Bob Edmunds, Coordinator for Program Review and Assessment RAB
Date: June 25, 2004

Subject: Yearly Assessment Report, MS Exercise Science

1. Thank you for submitting the Yearly Assessment Report for the program, MS Exercise Science . Please use the information in this report to guide your assessment activities during AY 2004-2005.

2. What follows is a brief critique of the report you submitted for the academic year 2002-2003.

I. Principal Elements of the assessment plan	The principal elements of the assessment plan were not discussed in the document.
Student outcomes	Student outcomes were listed in the chart; however, in their present form are basically immeasurable. Admission criteria are generally not considered outcomes. The program doesn't have the ability to do anything about prior performance. For example, the program cannot change the GPA of an entering student. The program measures what changes take place while the student is experiencing the program.
Assessment Tool or Approach/ Standards/Benchmark BOT Initiative #3	There are numerous tools mentioned, but none specifically mentioned.
Results/Analysis:	No specific results were mentioned. Brief analyses were mentioned, but no specific information.
Action Taken:	Interesting comments. The program has surely been busy keeping a set of high standards and making changes in the program based on something. The chart doesn't seem to reflect this.
Information on how assessment data is used to improve program quality (3 examples)	Changes and additions to the program have been initiated; however neither the narrative nor the chart indicates what data was used in these decision making processes.
Chart	The chart is present. It is difficult to interpret because of the very general nature of the material presented.

3. Review of the Assessment Summary Chart "Marshall University: Assessment of Student Outcomes."

This chart will help the program and the University Assessment Committee monitor a program's patterns of evidence. Please remember that you do not have to assess every outcome every year; however, within a 3-4 year period of time all program objectives must be evaluated, results analyzed, and actions taken (feedback loop) documented.

The chart needs to indicate student academic achievement. The chart as presented reflects a vague summary of what has occurred during the previous few years. Outcome 1 needs to be removed from the list. Generally, assessment of a program is what happens during a student's tenure with the program, not necessarily what he/she brings with them. Although admissions standards are important they pre-date what happens in the classroom and lab situations.

The program must revisit the wording of the student outcomes. As written, they do not describe student behaviors. Assessment tools listed are primarily courses within the program as opposed to specific tools used to measure student competency.

The results column does not give any specific results. It does show that things were done, but no specifics.

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There are actions taken, but they don't seem to grow out of the assessment process or the collection of assessment data.

4. Efficacy of Assessment:

As Marshal approaches its ten year self—study by the North Central Association's Higher Learning Commission, programs will be measured in terms of their efficacy of assessment. Programs are evaluated in terms of the development of measurable learning outcomes; the use of viable assessment measures and the implementation of an effective feedback loop. The current report has been evaluated based on these categories. Scores can range from 0-3 in each category. Overall total scores ranging from 1-3 indicate that the program is in the Beginning Stages of developing a viable assessment program. Overall scores ranging from 4-6 indicate that a program is making progress toward implementing a viable assessment program and overall scores ranging from 7-9 indicate that a program is in the maturing stages of continuous improvement. All programs should be in Level 2 (overall score 4-6) (Making progress toward implementing a viable assessment program) or Level 3 (overall score 7-9) (Maturing stages of continuous improvement) by May 2005.

Scores:	
I. Learning Outcomes	1
II. Assessment Measures	2
III. Feedback Loop	2
Overall Score:	5

Interpretation: The overall score of 5 indicates that the program has reached a level 2 (Making progress toward implementing a viable assessment program. The primary reasons are two in nature. The learning outcomes are decidedly vague. For example, what is meant by "Research Design" or "Statistical Analysis"? What student behaviors are desired? Also no specific evidence has been included in the chart. Analyses have been made and action taken, but with no specific supporting data. A good example of this would go something like this: *"I have this lovely blood pressure cuff sitting here and it does all sorts of wonderful things; however, I am not going to use it to take your blood pressure. But I have determined intuitively that you will need to exercise a great deal more, restrict your diet and take blood pressure medicine."*

5. Recommendations:

The program actually does have a rather rigorous program in effect, however, the report does not show that actual data has been collected on student performance and that any decisions about the viability of the program were determined by the use of that data collection. The Learning Outcomes need to be revisited and stated in terms of observable/measurable student behaviors. Specific evidence needs to be collected on a routine basis. Decisions about the student competency need to be based on data collected.

6. General Comments:

It is imperative that programs keep a record of their assessment activities and have this information available for the NCA/HLC site committee if requested.

7. Thanks so much for continuing to aid Marshall in its ongoing assessment efforts.

Enclosures

APPENDIX IX

PROGRAM STATEMENT
TABLES AND FIGURES

Table 2B. ESS 683 Cardiovascular Assessment [N=18]
Summary of Student Responses To Course Objective Achievement [%]
Did this course achieve the following objectives?

OBJECTIVE	AGREE/SOMEWHAT AGREE COMBINED	SOMEWHAT DISAGREE	DISAGREE
1. To understand the medical profile and case study analysis	**100**	√	√
2. To learn and perform screening and risk stratification procedures	**100**	√	√
3. To learn the clinical variable category classification sets	**100**	√	√
4. To learn and perform risk factor screening and management	**100**	√	√
5. To learn and apply contraindication to exercise testing/therapy	**100**	√	√
6. To develop 12-lead EKG reading skills	**100**	√	√
7. To understand the clinical procedures for diagnosing an MI	**100**	√	√
8. To develop a clinical attitude [i.e., respect for the patient/client]	**100**	√	√
9. To develop a scientific attitude [i.e., respect for measurement and data management]	**100**	√	√
10. To develop careful, thoughtful, thorough, and responsible attitudes and work habits for your career in allied health	**100**	√	√

Table 2C. ESS 684 Therapeutic Lifestyle Intervention Prescriptions [N=21]
Summary of Student Responses To Course Objective Achievement [%]
Did this course achieve the following objectives?

OBJECTIVE	AGREE/SOMEWHAT AGREE COMBINED	SOMEWHAT DISAGREE	DISAGREE
1. To assist you in developing skills necessary for managing multifactorial therapeutic lifestyle change [TLC] intervention programs	**100**	√	√
2. To assist you in developing skills necessary for exercise interventions for the well population as well as those with chronic disease	**95**	**5**	√
3. To assist you in developing skills necessary for working cooperatively with dietitians regarding nutritional plans	**95**	**5**	√
4. To assist you in developing skills necessary for stress management interventions	**100**	√	√
5. To assist you in developing skills necessary for smoke cessation interventions	**100**	√	√
6. To assist you in developing an appreciation for current medical opinion	**100**	√	√
7. To assist you in developing an appreciation for the effectiveness of multifactorial TLC intervention in preventive medicine	**100**	√	√
8. To sharpen your skills in managing case studies and medical profiles	**95**	**5**	√
9. To prepare you for your internship	**86**	**14**	√
10. To begin preparing you for your Master's Oral Examination	**95**	**5**	√

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Table 2D. ESS 670 Research Methods [N=31]
Summary of Student Responses To Course Objective Achievement [%]
Did this course achieve the following objectives?

OBJECTIVE	AGREE/SOMEWHAT AGREE COMBINED	SOMEWHAT DISAGREE	DISAGREE
1. To become familiar with the literature in your field	**87**	**3**	**10**
2. To become familiar with comprehensive research resources	**94**	**3**	**3**
3. To become familiar with research resources in your field	**94**	**3**	**3**
4. To understand basic data analysis procedures	**84**	**10**	**6**
5. To develop an appreciation for research applications in your field	**87**	**10**	**3**
6. To develop an appreciation for research applications in related fields	**91**	**3**	**6**
7. To have a basic understanding of the publication process	**97**	**3**	√
8. To become familiar with the poster preparation process	**100**	√	√
9. To develop team leadership skills	**90**	**10**	√
10. To develop an appreciation for professional scholarship	**100**	√	√

Table 2E. ESS 682 Health Promotion and Disease Prevention [N=19]
Summary of Student Responses To Course Objective Achievement [%]
Did this course achieve the following objectives?

OBJECTIVE	AGREE/SOMEWHAT AGREE COMBINED	SOMEWHAT DISAGREE	DISAGREE
1. To learn policies and procedures for Phase I, Phase II, and Phase III – Long-term Cardiac Rehabilitation [CR] Programs	**95**	**5**	√
2. To develop an appreciation for the recommended continuum of care for CR services	**95**	**5**	√
3. To assist you in developing an appreciation for CR guidelines	**95**	**5**	√
4. To assist you in developing skills necessary for managing therapeutic lifestyle change [TLC] interventions	**95**	**5**	√
5. To assist you in developing skills necessary for managing multifactorial therapeutic lifestyle change [TLC] intervention programs	**80**	**20**	√
6. To sharpen your screening, stratification, and risk stratification skills	**100**	√	√
7. To begin developing your six sigma leadership style	**84**	**16**	√
8. To assist you in examining the role of CR in rehabilitation and preventive medicine	**90**	**10**	√
9. To assist you in examining the rationale for CR	**95**	**5**	√
10. To sharpen your skills in managing case studies and medical profiles	**90**	**10**	√

Table 4. INTERNSHIP SUMMARY ∑=107]

Year	1999	2000	2001	2001	2003	2004	2005	2006	2007	2008
Number	12	12	6	14	9	11	15	10	12	6

Table 6A. Graduate Exercise Science Program Exit Survey Responses : Valuable Academic Experiences

1. Excellent professors with strong knowledge and backgrounds.
2. The internship requirement combined with great internship opportunities.
3. Very strong; all areas are strong.
4. Very good program; feel confident in the knowledge I have gained.
5. Professors are very knowledgeable and care about the students, especially the GAs.
6. Good professors and variety of courses.
7. The overall knowledge of the faculty.
8. Knowledgeable professors, class size, subject material; enjoyed my experience.
9. Therapeutic exercise equipment available for classes.
10. Curriculum covers a variety of subjects.
11. The laboratory experiences and hands on helps with the learning process.
12. The program is well-organized and makes great efforts to educate and prepare its students for our profession.
13. The faculty is very well-organized and extremely knowledgeable in each of their specialties; they are also available for advice and consultation. .
14. Advanced Cardiac Life Support class was a big help. .
15. Professors take the time to help students understand concepts.
16. Good professors who care about their students.
17. Faculty has extensive knowledge in their fields of study.
18. My life experience was great here.
19. I would recommend the program to any student.
20. This program was a tremendous Master of Science program. Strengths include:
    - ☐ Fantastic professors that took the time to teach on a master's level, yet communicated in ways so the individual student could understand.
    - ☐ I would recommend this program to any student.
21. Strong program; excellent teaching, very thorough with materials and points of study.
22. I was very impressed with the education and teaching of the instructors in my field.
23. Professors were very helpful in and out of the classroom
24 A huge asset that Marshall University has to offer that not all schools offer is the Graduate Assistantship Program and the priceless experience you get while also receiving your masters degree.
25. The strength of the faculty; a fine resource.
26. Knowledgeable professors, high level of challenging and varied coursework.
27. I really like the fact that there is a small teacher/student ratio. That allows individualization. I also like how teachers are willing to let the graduate student tailor assignments to their area of interest.
28. There was some conflict of exercise physiology students having to take clinical and cardiac rehabilitation area courses; personally, I thought I'd say that, for me, they were beneficial. Thank you.
29. The emphasis on cardiac knowledge; hands on experience with exercise testing.
30. The faculty are knowledgeable and very helpful and responsive to students. This is a fantastic, standout program that is recognized and respected thanks to the faculty and success of its students.
31. Faculty is wonderful and very helpful; professors want you to learn and achieve your goals.
32. Interaction with professors, class size.
33. I really feel like I learned from this program and was able to understand which helped in my internship.
34. Professors are kind and knowledgeable. Classes are interesting and practical.

35 I got along with all the professors; they were all professional and approachable.
36. Knowledgeable staff who were challenging. Acquired a lot of information while pursuing this degree. GA position prepared me well for future employment.
37. Diabetes Exercise and Cardiac Rehabilitation Center; Dr. Marley and Dr. Martin: find them help to decrease their time spent away from the classroom; let them do what they do best, teach.
38. The curriculum covers all areas of exercise physiology.
39. Highly recommendable program.
40. Experience of the faculty; their applied knowledge.
41. Overall great experience.
42, Very beneficial; great professors with experience in their fields.
43. Knowledge of the faculty.
44. The program goes beyond the basics, offers a strong faculty and great opportunities for internships.
45. Emphasis on the scientific literature; integration of research/current opinion into courses.

Table 6B. Graduate Exercise Science Program
Mailed and Electronic Questionnaire Responses:
Valuable Academic Experiences

1. "I must say that the entire program …directed by Dr. Marley was invaluable to me in my professional pursuits, both at the Cleveland Clinic and with Medtronic's Cardiac Rhythm and Disease Management Division. His program was far superior to anything I had encountered as an undergraduate at the University of Southern California, with respect to exercise science. Aside from the clinical education I received from Dr. Marley, he also sought to educate us in professional conduct, something that set me far above my colleagues when I entered the professional arena…. Specifically, courses ESS 683 and ESS 685 were very valuable to me."
   - Comments by a graduate entering the Joan C. Edwards Marshall University School of Medicine, Class of 2012.
2. "The clinical experience I received as a graduate assistant as well as in my internship was extremely valuable. This experience ,,, allowed me to interact with patients and health care providers on a daily basis. The skills I gained… helped pave the way for my success in my current position. In ESS 682, we reviewed and dissected relevant medical literature. We learned how to effectively read a clinical reprint. This training has proven extremely valuable in my current position as an executive in the pharmaceutical industry."
3. "I just wanted to … thank you for all you have done for me. I am currently a first year medical student at _____. I not only want to thank you for writing me a letter of recommendation, but for all the knowledge you shared with me over my time in your program. You prepared me not only academically for medical school, but professionally as well. Medical school is very demanding, but very rewarding at the same time. I look forward to studying the cardiovascular system in medical school. I am so thankful for everything you taught me regarding lipid profiles, EKGs, and many other cardiac and related diseases.Thank you again for everything."
4. "The cardiac rehabilitation courses demonstrated just how hard one would have to work to be successful."
5. "I believe the most helpful part of the program was the class work. I did not realize until I began working how much correlation there was between my job knowledge and the material in class….Dr. Marley's example set the tone for my performance. He expected our best in class and laid the groundwork for my professional pride and making sure co-workers, patients, etc. know they can count on my knowledge and skills to get the job done. As he said many times, "This is what we do."

6. "Dr. Marley clearly stressed professionalism in each class. My graduate assistant experiences allowed me to practice my communication and leadership skills, providing an excellent foundation for my successful professional career in the pharmaceutical industry."
7. "By far, the clinical experience I gained by working as a graduate assistant in the Diabetes Exercise and Cardiac Rehabilitation Center in the Human Performance Laboratory has been the most valuable aspect in my academic preparation for medical school. A close second would be the use and interpretation of EKGs in ESS 683 Cardiovascular Assessment and HPL Clinic…. I would not be in medical school today without the preparation and experience gained as a Graduate Assistant in the Diabetes Exercise and Cardiac Rehabilitation Program. "
   - ❑ Third Year Medical Student, Joan C. Edwards Marshall University School of Medicine.
8. "The most valuable course for me, in preparing for my current Research Associate position, was Dr. Marley's ESS 670, Research Methods; my internship at Cincinnati Children's Hospital in the Cardiology Department was a primary factor in my choice of a career in medical research."
9. The internship was cited by numerous graduates as either the most or one of the most valuable experiences in preparing for professional employment in the clinical setting.
10. Graduate Assistant experience was also cited by numerous graduates as either the most or one of the most valuable experiences in preparing for professional employment in the clinical setting. One graduate commented: "The most valuable aspect of the Graduate Exercise Science Program at Marshall University has been its ability to provide a unique clinical experience through the Diabetes Exercise Center. After participating as a GA in this program for 2 years, I found that I was prepared to enter any clinical exercise physiology position."
    - ☐ Graduate currently completing his Doctor of Physical Therapy degree at WVU.
11. "Dr. Marley's lectures, particularly those related to cardiovascular disease and diabetes were valuable."
12. "…the clinical aspect along with the management aspect were balanced well in the curriculum. My Graduate Assistantship in the Diabetes Exercise and Cardiac Rehabilitation Center with Dr. Marley was vital to my education. I wish that all the students could be GA's in the Human Performance Laboratory Programs…this is what really helps pull things together. It really helped me prepare for my work as a Physician Assistant….And I am doing it with great joy by the way."
    - ❑ A Board Certified Physician Assistant currently practicing in Florida.
13. "…working as a Graduate Assistant in the Diabetes Exercise and Cardiac Rehabilitation Program, my internship, and Dr. Marley's leadership."
14. "There were many valuable aspects of the program that prepared me for my career. First, was Dr. Marley's clinical expertise….Second the graduate assistantship experience …in the Diabetes Exercise Center….Lastly, was my clinical internship at the Cleveland Clinic Foundation, an experience that allowed me to put a capstone on my graduate studies."
15. "The exercise science program has helped me to improve my knowledge and…my clinical skills needed for PA school and clinical practice….in PA school I utilize my knowledge on a daily basis regarding EKGs, cardiac enzymes, treatment options for cardiac patients…and many other valuable tools I learned from my professors at Marshall University. It was much easier for me to learn certain things in PA school because of the background knowledge and experience I gained at Marshall….My advisor was instrumental in my career choice."
    - ❑ A student currently in the Physician Assistant Program at the Bowman Gray School of Medicine of Wake Forest School of Medicine.
16. "My graduate assistant position at the Diabetes Exercise/Cardiac Rehab Center, ACLS course, Exercise Testing Course."
17. "The internship and the use of graduates as peer mentors [guest speakers for class], professors were easy to access and available, and still are whenever I need any assistance. At the St. Louis School of Chiropractic Medicine, my education in the Graduate Exercise Science Program allows me to be more prepared than others in my class."

18. “Dr. Marley’s ESS 683, Cardiovascular Assessment, was very beneficial. Dr. Marley has been an excellent mentor and excellent communicator after graduation. During my time at Marshall, he went above and beyond what is normally expected of a professor. He has been a role model of mine since 1998.”
19. “Dr. William P. Marley, Dr. Terry Shepherd, and Dr. Dan Martin were exceptional teachers during the course of my study in the Graduate Exercise Science Program. Their knowledge is second to none. Their advice and guidance during my time in the program has helped shape my career.”
20. “I would have to say the faculty during my tenure in the program was exceptional in their teaching skills and their clinical and professional knowledge was shared in such depth that it has allowed me to achieve success in a large allied health administrative position.”
21. “I believe our program prepares students to enter the clinical setting with superior knowledge and confidence. I can never thank you enough….”
22. ”I have fond memories of my academic career and recommend the program to others. I believe our students are well-prepared and superior to similar programs. Thank you.”
23. “”The program offers great ‘hands on’ opportunities to students – it is definitely the strong point of the program and should remain so. This separates our program from others….
    - This comment from a former Graduate Assistant in the Diabetes Exercise and Cardiac Rehabilitation Center.
24. “The most valuable aspect of the Program for me was the diverse background we received in disease processes and complex patients with multiple comorbid disease.”
25. “My current position is administrative. However, my clinical background through education in the Exercise Science Program and my clinical experience there provided me with this opportunity. My training in the Program provided me with the opportunity for my first position in the clinical setting; the exposure to research methodology and procedure has given me the ability to stay on top of things in my allied medical field.”
26. “The most valuable aspects of the exercise science program were ESS 682, 683, 684 and 685….”

Table 6C. Graduate Exercise Science Program Exit Survey Responses : Suggestions For Program Modifications/Improvements; With Dr. Marley’s Responses Regarding Implementation

1. Stop teaching to the weakest links; demand that students pursue academic excellence at the next level, as Dr. Marley teaches.
   - Response: This concern has become more challenging in recent years; one strategy that has proven effective is the workshop technique and the use of stronger students as “peer mentors.”
2. Perhaps an emphasis on applications of strength and conditioning; that should include a professor with a Ph.D. and CSCS certification who can teach ESS 642 and possibly one additional course. .
   - Response: Because of position cutbacks and an inability to compete salary-wise in the job market, this request could not be satisfied with Dr. Chandler’s departure. We have, however, recently hired a Ph.D. with a specialty in Strength and Conditioning to address this concern.
3. Some classes are repetitive; cadaver class would be great.
   - Response: The curriculum is being streamlined and enhanced by agreement with other disciplines. This includes arrangements with programs in Health Care Administration, Counseling, and Biological Sciences.
4. Students need to be informed of proper course sequence so that an appropriate knowledge base is established for more advanced classes.

- Response: This problem can easily be resolved with a personal interview; it usually occurs when a student is unable to schedule a personal interview and/or begins their program in the spring semester. The personal interview serves many purposes, including that of a graduate school orientation.

5. More classes should be offered.
   - Response: This request is being resolved by arrangement with other disciplines; for example, students are enrolling in Health Care Administration, Counseling classes, and Molecular Biology classes relevant to their plan of study. It would be desirable to require Health Assessment, but we lack adequate staffing to teach the class.
6. We need more hands on work, too much classroom; we need more EKG instruction, work with telemetry, including the 12-lead, and metabolic cart.
   - Response: It is not realistic to expect these kinds of experiences to be provided in the classroom to the extent necessary for developing clinical acumen. Laboratory experiences with EKG telemetry, blood glucose monitoring, blood pressure assessment, and metabolic cart, are available in Human Performance Laboratory Programs and the Exercise Physiology Laboratory. Students can use these facilities outside class hours to develop their skills in these areas. One student suggested requiring laboratory hours and clinical time; again, this may not be realistic because of the nonresident nature of our student body. The clinical internship addresses these needs; student motivation to use available facilities and programs is a factor.
7. The program needs more professors; the current faculty is spread too thin.
   - Recent staffing additions have been aimed at addressing this concern of both students and faculty.

Table 6D. Graduate Responses to Mailed and Electronic Questionnaires: Suggestions For Program Modifications/Improvements with Dr. Marley's Responses Regarding Implementation

1. "Dr. Marley and staff gave me the knowledge and confidence…to excel in my internship and in the workplace….Many of the skills and practices I learned in Exercise Science classes, I used daily on the job in cardiac rehabilitation and I believe I made an easier transition to my job at the Cleveland Clinic than most of my colleagues from other institutions….There are no improvements that I could list at this time. It is my opinion that the clinical applied area of emphasis in the Graduate Exercise Science Program places graduates in a perfect position to gain immediate employment in the field."
2. More emphasis on communication and leadership skills.
   - Workshop sessions, spontaneous class presentations, lightening round discussions, and team presentations are aimed at developing these skills. These tasks have received increased emphasis in recent years.
3. Place more emphasis on medications, pharmacology, and pathology. .
   - ESS 687, Advance Life Support, addresses this concern in emergency medicine and a pharmacology course is now available for our students.
   - Pathology is addressed to some degree in ESS 683; time limitations are a concern here.
4. "Communication was lacking in the Graduate College office and administration."
   - This concern has been resolved in great degree by having advisors work more closely with administrative staff and streamlining processing and entry procedures; the addition of an Admissions Recruiter for the Graduate Exercise Science Program by the Graduate School has been especially helpful .
5. "I wish that all the students could be GA's in the HPL as this is what really helps pull things together. The curriculum really prepared me for my current career as a physician assistant…."

6. "As I review the current website, it appears that my concerns have been addressed."
7. A course devoted to program development, business planning, budget management, and health care costs would be valuable.
    - I have made arrangements for our students to be enrolled in the School of Business course, Health Care Administration 600, to address this concern.
8. "I would change nothing about the program. I really appreciated the fact that the program molds to each individual when it comes to what they would like to do for their future career….I I really enjoyed the diversity of the program and its different areas of concentration."
9. "Achieve better support from the University." This echoed the thoughts of many respondents; their comments were more explicit.
10. "Consider ACSM certification as part of an existing course."
    - I have consistently introduced practice ACSM Certification Examinations in my classes and introduced concepts that prepare our students for such certification; remember, many of our students have also passed licensure exams as physicians, physical therapists, physician assistants, pharmacists, PTAs, and been certified in other clinical entities [e.g., ACLS, Respiratory Therapy]. In any case, our students have been very successful in passing ACSM certification exams; our most recent ACSM Certified Exercise Specialist is Rebekah Newman, MS, at the Cleveland Clinic Foundation Medical Center in Jacksonville FL.
11. "When recalling my experience in this program, I cannot truly think of any aspect that was lacking. Dr. Marley went out of his way to provide us with the most comprehensive education in cardiac rehabilitation/exercise physiology, given the resources available to him at that time. Since returning, I have seen the improvements to the education facilities in the Henderson Center [spearheaded by Dr. Marley]. It would have been nice to have those amenities when I was a student, however, while I was there Dr. Marley had been busy with improvements to the cardiac rehabilitation facility for the patients, and patients should always come first. I mean this with the utmost sincerity."

Table 8. Selected Titles: Current Positions for Exercise Science Masters Graduates

Health System Senior Strategic Planning Analyst Administrator
Medical Center Supervisor
Administrative Director, Cardiothoracic Surgery
Director of Rehabilitation Services
Director of Cardiac Rehabilitation
Director of Sports Performance Enhancement Center
Director of Fitness & Weight Loss Center
Director, Cardiac, Vascular & Pulmonary Services
Insurance Executive: Director of Health Care Services

Director, Corporate Wellness Center
Supervisor, Exercise Stress Testing Laboratory
Supervisor, Medical Center Occupational Health and Wellness
Supervisor, Department of Cardiac Rehabilitation
Head Athletic Trainer
Strength and Conditioning Coach
Branch Director YMCA
Manager, High Intensity Training [HIT] Center

Clinical Research Associate
Scientist for Pharmaceutical Product Development
Pacemaker Specialist, Cardiac Rhythm & Disease Management
Coordinator, Cardiac Rehab & Diabetes Exercise Center
Coordinator Wellness and Preventive Medicine
Coordinator, Therapeutic Lifestyle Intervention, M.D. Practice
Staffing Coordinator, Physician Recruiter for Healthcare System

Clinical Exercise Physiologist
Health and Wellness Specialist
Personal Trainer

Pharmaceutical Sales Representative
Pacemaker Sales and Management

Registered Dietitian, Cardiovascular Specialist
Cardiac Rehabilitation Dietetic Specialist
Clinical Dietitian

Physician Assistant
Physical Therapist
Doctor of Physical Therapy
Blind Rehabilitation Outpatient Specialist
Cardiology Electrophysiology Lab Technician
Ph.D., Exercise Physiology;
Ph.D., Health Care Administration
Pharmacy Doctorate [Pharm. D.]
Physician

Table 9. Some Employers of Exercise Science Graduates

The Cleveland Clinic Foundation	Duke University Medical Center
The Mayo Clinic	Charleston Area Medical Center
Cabell Huntington Hospital	Our Lady of Bellefonte Hospital
University of Virginia Medical Center	Nautilus Sports Fitness Centers
Ohio State University Medical Center	Dow Chemical Corporation
Dayton Heart Center	Williamson Memorial Hospital
The Atlanta Braves	Carolina Cardiology Group
Office of Strategy Planning	Howard Long Wellness Center
HIT Centers, Incorporated	Dayton Sports Medicine Institute
Merck Pharmaceutical, Inc.	Pfizer Pharmaceutical, Inc.
Guidant Pacemaker, Inc.	Medtronic Pacemaker, Inc.
Shady Grove Adventist Hospital[MD]	Carolina Cardiology, Inc.
Huntington Physical Therapy	Boone Memorial Hospital
Presbyterian Hospital [NC]	Aventis Pharmaceuticals
Presbyterian Hospital [NJ]	St. Mary's Hospital [WV]

Young Men's Christian Association
Berkshire Family Medicine [PA]
Peninsula Regional Medical Center [MD]
Southern Ohio Medical Center
Mountain State Blue Cross/Blue Shield
Waianae Coast Comprehensive Health Center [Hawaii]
Cabell Wayne Association of the Blind
Johns Hopkins University School of Medicine
John Hopkins Bayview Medical Center
University of Virginia Health System
Veteran's Administration Medical Center
University of Cincinnati Medical Center