

Institutional Effectiveness Report

Department: Physician Assistant Department

Year: 2016

Name of Preparer: Dr. Laura McClary, Consultant and Ms. Julie Thomas, Department Chair and Interim Program Director

Executive Summary of Report

The Francis Marion University Physician Assistant Program mission and the program learning outcomes are intertwined and supported by the student learning outcomes. The program learning outcomes encompass a diverse student body, self-directed learning and superior graduates with the knowledge and skills sets to properly evaluate, monitor, diagnose, treat and counsel patients across the lifespan and in various levels of acuity. The program learning outcomes also seek to prepare graduates to be compassionate, ethical and effective members of healthcare teams while emphasizing the needs of underserved populations within the geographical area of the Pee Dee region of South Carolina. All of these outcomes must be accomplished within full compliance of the ARC-PA standards.

Student Learning outcomes directly support the Program Learning outcomes. The course curriculum, activities and evaluations require that the students demonstrate knowledge, skills and attitudes consistent with the ARC-PA standards. The methods of evaluation have a standard set at 77% as the benchmark and 80% as the target to demonstrate competency. Both direct and indirect methods of evaluation were used including written examinations, performance examinations (OSCEs), student self-surveys and direct supervision surveys by preceptors. In each course of Fall (2016), 100% of the students met the benchmark and 100% of the students also met the target. This indicates that 100% of the students demonstrate a level higher than the threshold that is considered competent.

Being that this is the inaugural class, this was the first opportunity to set both benchmarks and standards for student learning outcomes. After the first semester ended, the data was collected and a medical education consultant was procured to assist in analyzing the data. After data analysis and interpretation, it was recommended that the curriculum be resequenced to maximize student learning outcomes. Other changes that were made include shadowing experiences and the inclusion of PA students alongside USC Medical Students in the anatomy cadaver lab. Both of these additional activities help the students learn to become a part of a healthcare team. In conclusion, the inaugural class for Fall 2016 was academically successful based on the rate at which the class met not only the benchmarks, but the targets as well. The Program will continue assess needs of the students term to term as related to the student learning outcomes and program learning outcomes. The program will likewise continue to make adjustments to the curriculum based on the student learning outcomes.

Program Mission Statement

The Francis Marion University Physician Assistant Program seeks to educate excellent primary care physician assistants to become compassionate, ethical, and clinically skillful graduates who are ready to provide health care services with personal and professional integrity.

This mission statement ties into the University Mission which is to provide students with an excellent education, stimulate inquiry and research, and serve the Pee Dee region and the state of South Carolina.

Program Learning Outcomes

- Matriculate a diverse student body who reflect the richness of South Carolina's population;
- Promote an educational atmosphere that empowers students to become self-directed, life-long learners
- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Foster the development of compassionate, ethical, culturally aware healthcare providers;
- Prepare students to practice as part of an efficient and effective health care team
- Emphasize the needs of underserved populations and prepare and encourage graduates to serve those populations, particularly in the Pee Dee
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

Student Learning Outcomes

At the completion of the Program, graduates will be able to:

- 1) SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent data; as evidenced in the following courses:

PA 501 Anatomy and Physical Assessment Basics
PA 513 Interpersonal Communication and History Taking
PA 523 Clinical Assessment, Diagnosis and Application I
PA633 Clinical Assessment, Diagnosis and Application II
PA643 Clinical Assessment, Diagnosis and Application III

ELA=100% of students will achieve a 77% score or higher

SUPPORTS the following PLOs:

- Matriculate a diverse student body who reflect the richness of South Carolina's population;
- Promote an educational atmosphere that empowers students to become self-directed, life-long learners
- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Foster the development of compassionate, ethical, culturally aware healthcare providers;
- Prepare students to practice as part of an efficient and effective health care team
- Emphasize the needs of underserved populations and prepare and encourage graduates to serve those populations, particularly in the Pee Dee
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

- 2) SLO 2.0: Perform and interpret routine diagnostic studies; as evidenced in the following courses:

PA 525 Clinical Interventions and Diagnostics I
PA 635 Clinical Interventions and Diagnostics II
PA645 Clinical Interventions and Diagnostics III

ELA=100% of students will achieve a 77% score or higher

SUPPORTS the following PLOs:

- Promote an educational atmosphere that empowers students to become self-directed, life-long learners

- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Prepare students to practice as part of an efficient and effective health care team
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

3) SLO 3.0: Perform or refer appropriately for diagnostic or therapeutic procedures; as evidenced in the following courses:

PA 525 Clinical Interventions and Diagnostics
 PA 635 Clinical Interventions and Diagnostics II
 PA645 Clinical Interventions and Diagnostics III
 PA 523 Clinical Assessment, Diagnosis and Application I
 PA633 Clinical Assessment, Diagnosis and Application II
 PA643 Clinical Assessment, Diagnosis and Application III

ELA=100% of students will achieve a 77% score or higher

SUPPORTS the following PLOs:

- Promote an educational atmosphere that empowers students to become self-directed, life-long learners
- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Prepare students to practice as part of an efficient and effective health care team
- Emphasize the needs of underserved populations and prepare and encourage graduates to serve those populations, particularly in the Pee Dee
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

4) SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings; as evidenced in the following courses:

PA 523 Clinical Assessment, Diagnosis and Application I
 PA633 Clinical Assessment, Diagnosis and Application II
 PA643 Clinical Assessment, Diagnosis and Application III

ELA=100% of students will achieve a 77% score or higher

SUPPORTS the following PLOs:

- Matriculate a diverse student body who reflect the richness of South Carolina's population;
- Promote an educational atmosphere that empowers students to become self-directed, life-long learners
- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Foster the development of compassionate, ethical, culturally aware healthcare providers;
- Prepare students to practice as part of an efficient and effective health care team
- Emphasize the needs of underserved populations and prepare and encourage graduates to serve those populations, particularly in the Pee Dee
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

5) SLO 5.0: Provide appropriate patient education and counseling to address health maintenance and disease prevention as evidenced in the following courses:

PA 513 Interpersonal Communication and History Taking
 PA505 Population Health and Epidemiology
 PA 523 Clinical Assessment, Diagnosis and Application I
 PA633 Clinical Assessment, Diagnosis and Application II
 PA643 Clinical Assessment, Diagnosis and Application III
 PA 603 Advanced Research and Evidence-based Practice

ELA=100% of students will achieve a 77% score or higher

SUPPORTS the following PLOs:

- Matriculate a diverse student body who reflect the richness of South Carolina's population;
- Promote an educational atmosphere that empowers students to become self-directed, life-long learners
- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Foster the development of compassionate, ethical, culturally aware healthcare providers;
- Prepare students to practice as part of an efficient and effective health care team
- Emphasize the needs of underserved populations and prepare and encourage graduates to serve those populations, particularly in the Pee Dee
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

6) SLO 6.0: Facilitate the appropriate referral of patients to address their medical and social welfare need as evidenced in the following courses:

PA 510 Fundamentals of Medicine and Role of the Physician Assistant
PA 523 Clinical Assessment, Diagnosis and Application I
PA 633 Clinical Assessment, Diagnosis and Application II
PA 643 Clinical Assessment, Diagnosis and Application III
PA 607 Clinical Decision-Making and Ethics
PA 603 Advanced Research and Evidence-based Practice

ELA=100% of students will achieve a 77% score or higher

SUPPORTS the following PLOs:

- Matriculate a diverse student body who reflect the richness of South Carolina's population;
- Promote an educational atmosphere that empowers students to become self-directed, life-long learners
- Provide Physician Assistant students with superior knowledge and skills for the evaluation, monitoring, diagnosis, treatment, and counseling of patients across their lifespan
- Foster the development of compassionate, ethical, culturally aware healthcare providers;
- Prepare students to practice as part of an efficient and effective health care team
- Emphasize the needs of underserved populations and prepare and encourage graduates to serve those populations, particularly in the Pee Dee
- Fully comply with the standards established by the Accreditation Review Commission on Education for the Physician Assistant.

Assessment Methods

- 1) SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent data

METHOD of EVALUATION:

- Laboratory performance evaluations in PA 501 and PA 513 (DIRECT)
- Practical Examinations in PA 501 and PA 513 (DIRECT)
- OSCEs in PA 501, PA513 and the Clinical Medicine Blocks (DIRECT)
- Clinical Preceptor Evaluations in shadowing experience (INDIRECT)
- Clinical Preceptor Evaluations in clinical rotations (INDIRECT)
- Student self-evaluations in Clinical Year (INDIRECT)

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- 2) SLO 2.0: Perform and interpret routine diagnostic studies

METHOD of EVALUATION:

- Laboratory performance evaluations in PA 501 (DIRECT)
- Practical Examinations in PA 501(DIRECT)
- OSCEs in PA 501 and the Clinical Medicine Blocks (DIRECT)
- Clinical Preceptor Evaluations in shadowing experience (INDIRECT)
- Clinical Preceptor Evaluations in clinical rotations (INDIRECT)
- Student self-evaluations in Clinical Year (INDIRECT)

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- 3) SLO 3.0: Perform or refer appropriately for diagnostic or therapeutic procedures

METHOD of EVALUATION:

- Laboratory performance evaluations in PA (DIRECT)
- Practical Examinations in PA (DIRECT)
- OSCEs in PA and the Clinical Medicine Blocks (DIRECT)
- Clinical Preceptor Evaluations in shadowing experience (INDIRECT)
- Clinical Preceptor Evaluations in clinical rotations (INDIRECT)
- Student self-evaluations in Clinical Year (INDIRECT)

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- 4) SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings

METHOD of EVALUATION:

- Laboratory performance evaluations in PA (DIRECT)
- Practical Examinations in PA (DIRECT)
- OSCEs in PA and the Clinical Medicine Blocks (DIRECT)
- Clinical Preceptor Evaluations in shadowing experience (INDIRECT)
- Clinical Preceptor Evaluations in clinical rotations (INDIRECT)
- Student self-evaluations in Clinical Year (INDIRECT)

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- 5) SLO 5.0: Provide appropriate patient education and counseling to address health maintenance and disease prevention

METHOD of EVALUATION:

- Laboratory performance evaluations in PA (DIRECT)
- Practical Examinations in PA (DIRECT)
- OSCEs in PA and the Clinical Medicine Blocks (DIRECT)
- Clinical Preceptor Evaluations in shadowing experience (INDIRECT)
- Clinical Preceptor Evaluations in clinical rotations (INDIRECT)
- Student self-evaluations in Clinical Year (INDIRECT)

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- 6) SLO 6.0: Facilitate the appropriate referral of patients to address their medical and social welfare needs:

METHOD of EVALUATION:

- Laboratory performance evaluations in PA (DIRECT)
- Practical Examinations in PA (DIRECT)
- OSCEs in PA and the Clinical Medicine Blocks (DIRECT)
- Clinical Preceptor Evaluations in shadowing experience (INDIRECT)
- Clinical Preceptor Evaluations in clinical rotations (INDIRECT)
- Student self-evaluations in Clinical Year (INDIRECT)

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

Assessment Results

- 1) SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent data;

PA 501 Anatomy and Physical Assessment Basics
PA 513 Interpersonal Communication and History Taking
PA 523 Clinical Assessment, Diagnosis and Application I
PA 633 Clinical Assessment, Diagnosis and Application II
PA 643 Clinical Assessment, Diagnosis and Application III

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- The average grades for the courses above were >90%. All students achieved a grade higher than the target of 80%. Benchmark of 77% or greater was met; Target of 80% or higher was achieved.

- 2) SLO 2.0: Perform and interpret routine diagnostic studies courses:

PA 525 Clinical Interventions and Diagnostics I
PA 635 Clinical Interventions and Diagnostics II
PA645 Clinical Interventions and Diagnostics III

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- The average grades for the courses above were >90%. All students achieved a grade higher than the target of 80%. Benchmark of 77% or greater was met; Target of 80% or higher was achieved.

- 3) SLO 3.0: Perform or refer appropriately for diagnostic or therapeutic procedures

PA 525 Clinical Interventions and Diagnostics I
PA 635 Clinical Interventions and Diagnostics II
PA645 Clinical Interventions and Diagnostics III
PA 523 Clinical Assessment, Diagnosis and Application I
PA633 Clinical Assessment, Diagnosis and Application II
PA643 Clinical Assessment, Diagnosis and Application III

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- The average grades for the courses above were >90%. All students achieved a grade higher than the target of 80 Benchmark of 77% or greater was met; Target of 80% or higher was achieved.

- 4) SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings
 PA 523 Clinical Assessment, Diagnosis and Application I
 PA633 Clinical Assessment, Diagnosis and Application II
 PA643 Clinical Assessment, Diagnosis and Application III

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- The average grades for the courses above were >90%. All students achieved a grade higher than the target of 80%. Benchmark of 77% or greater was met; Target of 80% or higher was achieved.

- 5) SLO 5.0: Provide appropriate patient education and counseling to address health maintenance and disease prevention
 PA 513 Interpersonal Communication and History Taking
 PA505 Population Health and Epidemiology
 PA 523 Clinical Assessment, Diagnosis and Application I
 PA633 Clinical Assessment, Diagnosis and Application II
 PA643 Clinical Assessment, Diagnosis and Application III
 PA 603 Advanced Research and Evidence-based Practice

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- The average grades for the courses above were >90%. All students achieved a grade higher than the target of 80%. Benchmark of 77% or greater was met; Target of 80% or higher was achieved.

- 6) SLO 6.0: Facilitate the appropriate referral of patients to address their medical and social welfare needs
 PA 510 Fundamentals of Medicine and Role of the Physician Assistant
 PA 523 Clinical Assessment, Diagnosis and Application I
 PA 633 Clinical Assessment, Diagnosis and Application II
 PA 643 Clinical Assessment, Diagnosis and Application III
 PA 607 Clinical Decision-Making and Ethics
 PA 603 Advanced Research and Evidence-based Practice

TARGET = score of 80% or higher for 100% of students

BENCHMARK=77% or higher for 100% of students; any score below 77% constitutes a course failure.

- The average grades for the courses above were >90%. All students achieved a grade higher than the target of 80%. Benchmark of 77% or greater was met; Target of 80% or higher was achieved.

Action Items

- 1) It was determined that 100% of the students must achieve a benchmark of 77% score and a target of 80% or higher score. This is reflected in the student handbook and each of the course syllabi. These benchmarks and targets will allow the students to obtain the following SLOs:

SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent

SLO 2.0: Perform and interpret routine diagnostic studies

SLO 3.0: Perform or refer appropriately for diagnostic or therapeutic procedures

SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings

SLO 5.0: Provide appropriate patient education and counseling to address health maintenance and disease prevention

SLO 6.0: Facilitate the appropriate referral of patients to address their medical and social welfare needs

- 2) It was determined that the courses for Fall I term (2016) were out of sequence in the curriculum. (See Appendix: Course Change Forms/PA Department Curriculum Changes). This new sequencing will allow the students to obtain the following SLOs:

SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent

SLO 2.0: Perform and interpret routine diagnostic studies

SLO 3.0: Perform or refer appropriately for diagnostic or therapeutic procedures

SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings

SLO 5.0: Provide appropriate patient education and counseling to address health maintenance and disease prevention

SLO 6.0: Facilitate the appropriate referral of patients to address their medical and social welfare needs

- 3) The Program sent the current cohort to the USC School of Medicine's cadaver lab to complement their anatomy course. This experience will allow the students to obtain the following SLOs:

SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent

SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings

- 4) The students also participated in shadowing health care providers in the Pee Dee area's hospitals and private practices to enhance clinical experience. This will allow the students to obtain the following SLOs:

SLO 1.0: Elicit a detailed and accurate medical history, perform a complete physical examination, and appropriately record all pertinent

SLO 2.0: Perform and interpret routine diagnostic studies

SLO 3.0: Perform or refer appropriately for diagnostic or therapeutic procedures

SLO 4.0: Provide complete and accurate patient assessment in order to formulate an appropriate management plan in a variety of healthcare settings

SLO 5.0: Provide appropriate patient education and counseling to address health maintenance and disease prevention

SLO 6.0: Facilitate the appropriate referral of patients to address their medical and social welfare needs

Sources Cited

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Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) Standards, Fourth Edition Effective September 1, 2010. www.arc-pa.org

Appendices

- A. Fall term, Semester I 2016 Course SWOCs
- B. Survey Instrument for Cadaver Lab
- C. PA 510: Fundamentals of Medicine and Role of the PA SWOCs

Francis Marion University-Physician Assistant Program
PA 508 Physiology and Pharmacology Basics
Fall Semester 2016 (Class 2018)

Course Information:

Course Director: Zilola Khashimova, MD, PhD

Textbook Required: Fox, S. I. (2016). *Human Physiology* (14th ed.). NYC: McGraw-Hill.
Fox, S. I. (2013). *A Laboratory Guide to Human Physiology: Concepts & Clinical Applications* (13th ed.). NYC: McGraw-Hill. Pharmacology Text: Edmunds, M. W., Mayhew, M.S. (2014) *Pharmacology for the Primary Care Provider* (4th ed.). St. Louis, MO: Elsevier Mosby.

Course Length: 15 weeks

Credit Hours: 4 (3, 3)

Class time: 2 lectures (1 hour each) and 3-hour Lab
10.30-11.30 on Mondays and Wednesdays;
8.30-11.30 on Thursdays

Instructors: Zilola Khashimova, MD, PhD

Didactic Approach: Material was presented with PowerPoint lectures, reading primary literature, working with interactive cadaver and lab simulators, performing lab practical's, using self-study tools, discussing case studies.

COURSE DESCRIPTION:

This course provides a comprehensive introduction to the physiologic functions and mechanisms of actions of the major organ systems within the human body. This foundation in human physiology is paired with introductory content in pharmacology and the correlation between these two sciences. A practical approach to pharmacology concepts will emphasize mechanisms of action, drug-receptor interactions, drug-drug interactions, pharmacokinetic principles, drug development and safety, as well as clinical implications for dosing and administration.

Evaluations (Student Ratings):

Mechanism used was traditional Likert Scale

(Strongly Agree=1, Agree=2, Neutral=3, Disagree=4, Strongly Disagree=5)

Comments regarding COURSE	Average Rating (N=32)
Course grades matching with received knowledge	1.69
Organized and clear	2.00
Improved understanding of physiology	2.00
Relevant to PA profession	1.69
Improved critical thinking	2.28
Test material available in teaching material and tools	1.66
During the Labs microscopes and slides were available	1.59
Improving test taking strategy	2.22
Using hand-on practicals helped in learning process	2.41

Comments regarding INSTRUCTOR	Average Rating (N=32)
Prepared and knowledgeable	1.47
Preparedness of lecture material related to the textbook	1.53
Effective as a teacher	1.69
Available outside of class	1.19
Cares about students	1.09
Support of lectures with video material	1.34
Instructions was give before exams and tests	1.31
Lectures and Labs was done by class schedule on time	1.19

SWOC Analysis of Course

Strengths:

- Exposes students to the increasing importance of understanding to the physiologic functions and mechanisms of actions of the major organ systems within the human body.
- Students felt the assignments and test questions went beyond the coverage of material in the lecture and expanded their knowledge.
- Interactive assignments, case studies labs, self–studying tools and Anatomy & Physiology Reveal gave the students access to the whole body systems together with histology, imaging and dissection tools. These interactive tools were available to students online and used to support the course material as needed by a student.
- During the labs we performed hands on practical's and used available mammal organs slides, microscopy, tests to recognize different pathologies such as inborn metabolism errors, endocrine disorders, reproductive system testing's, hematological testing's, clinical examinations, etc. Students enjoyed the lab experiments and it is a good additional to the material covered in course.
- Assignments and tests required students to understand material rather than memorize it. They also encouraged critical thinking and analytical approaches.
- All teaching material was covered and matched with interactive learning tools and the textbook which made the study process more accessible. These tools were available to students online and used to support the course material as needed by a student.
- Students appreciated the inclusion of clinical application of the learning concepts and review of actual diseases to illustrate and reinforce fundamental concepts. This helped to understand physiology and improved their clinical thinking.
- Students generally liked the instructor. They felt I was knowledgeable, caring, and approachable.
- Test material was covered during the semester in lectures, assignments and labs. So, students felt prepared for test examinations.

Weaknesses:

- The lack of laboratory equipment to use for hands on practical's. Have more practical's and more experiments in labs will be more benefit.
- The amount of time dedicated to this course was too short. It is a large amount of material covered during the course.
- Some students have a problem in performing interactive self-studying assignments due to lack of IT knowledge and sometimes bad internet connection.
- Student's background knowledge of the material was low.

Opportunities:

- Adding and including in the budget for more laboratory equipment will improve the course and give the ability to perform more hands on practical's in the laboratory.
- The students are correct in their assessment regarding the length of the course. This course could be vastly improved by increasing the length.
- Assuming that the length of the course is increased, the disease examples could be expanded to include more clinical information.
- Adding changes to online interactive assignments will bring a better success in study process. Some students had better knowledge of physiology as an undergrad and some have not.
- I would like to increase the number of primary articles I have them read. It would also be good to spend some time in small group or class discussion.
- I would like to add more clinical application of course material at the next semester.

Challenges:

- The main challenge was that it is a new program that started in August 2016, and I was hired in July 2016, so it was very short time to prepare for the course.
 - A particular challenge that I experienced this semester was the amount of equipment available in our laboratories to perform practical's. I hope for next year we will be more equipped for our labs experiments.
 - The sheer volume of physiology information that is recommended for a PA program is significant and requires more than 2 hour lectures a week to cover adequately. In fact, we lost a lecture period to Hurricane Matthew closures, so we needed to catch up the lectures during the other class time.
- PA programs typically require an undergraduate physiology course for admission, students will come in with varying degrees of physiology background. This variability means that certain cognitive assumptions on my part can put those students with lack of background at a disadvantage. In response to this discrepancy, I am considering the creation of some assignments that will help the students to be more in point. These will be available to students online and can be used to support the course material as needed by a student

Appendix B: Survey Instrument for Cadaver Lab



FRANCIS MARION UNIVERSITY
PHYSICIAN ASSISTANT PROGRAM

Student Evaluation of the USC School of Medicine Gross Anatomy Experience

The purpose of this survey is to evaluate the cadaver experience. The data will aid the program in ongoing program improvement.

INSTRUCTIONS: Consider each item separately and rate each item independently of all others. Circle the rating that indicates the extent of you agree with each statement. Please do not skip any rating. If you do not know a particular area, please write N/A.

1 = Excellent 2 = Good
3 = Fair 4 = Poor

Course Name _____

1. Tour of the gross anatomy lab and museum	1	2	3	4
2. Quality of instruction by Cell Biology and Anatomy faculty (CBA)	1	2	3	4
3. Quality of instruction by FMU PA faculty in attendance	1	2	3	4
4. Preparedness of equipment such as gloves and disposable surgical gowns, masks etc.	1	2	3	4
5. Hands-on examination of specimens within the museum as well as cadaveric specimens	1	2	3	4
6. Length of time spent on Gross Anatomy Experience	1	2	3	4

7. Quality of the cadaver specimen	1	2	3	4
8. Application of cadaver experience instruction to your Anatomy course overall	1	2	3	4
9. Quality of instruction by TAs (medical students)	1	2	3	4
10. Instruction in specific regions of the human body	1	2	3	4
11. Quality of the facility used for cadaver experience	1	2	3	4
12. Quality of instruction on directions to the facility	1	2	3	4
13. Awareness of professional rules regarding cadaver experience	1	2	3	4

Comments:

Please use back of paper for additional space if needed.

**Francis Marion University-Physician Assistant Program
PA 510: Fundamentals of Medicine and Role of the PA
Fall Semester 2016 (Class 2018)**

Course Information:

Course Director:	Vernon W. Bauer, Ph.D.
Textbook Required:	None
Course Length:	8 lectures (1.5 hours each)
Credit Hours:	~1 credit
Instructors:	Julie Thomas, MSPAS, PA-C (Role of PA portion) Vernon Bauer, Ph.D. – (Medical Genetics portion)
Didactic Approach:	Material was presented with PowerPoint lectures, reading primary literature, and discussing case studies.

Evaluations (Student Ratings):

Mechanism used was traditional Likert Scale

(Strongly Agree=1, Agree=2, Neutral=3, Disagree=4, Strongly Disagree=5)

Comments regarding COURSE	Average Rating (N=24)
Organized and clear	1.63
Improved understanding of genetics	1.38
Relevant to PA profession	1.71
Improved critical thinking.	1.38
Time used well	1.33
Test material covered in lecture	1.67
Assignments were appropriate	1.43

Comments regarding INSTRUCTOR	Average Rating (N=24)
Prepared and knowledgeable	1.04
Enthusiastic about genetics	1.00
Stimulated interest in genetics	1.38
Interactive during class	1.13

Effective as a teacher	1.13
Encouraged students to participate	1.46
Available outside of class	1.13
Cares about students	1.29

Evaluations (Indicative Student Feedback):

The material was great and related to what we needed to know for going into the PA profession. Dr. Bauer was awesome. He knows his stuff, naturally, and makes learning the material interesting even when it's not the most interesting material to read about. His test questions were tough, but fair. I can't stress the word fair enough. If people are complaining about the test questions, they probably didn't prepare enough for it. Dr. Bauer is great, and should teach a semester long class in something, if not genetics. I believe that taking a more basics class combined class with this material all semester would be a great idea.

I do wish our assignments were graded before we took our tests. This would have helped understand what we were confused about prior to the test.

I thoroughly enjoyed genetics, but I believe it should have been separated from Role of the PA as both courses teach different concepts.

The testing material and homework assignments were sometimes more in-depth than what we covered in class

The concepts presented in this course seemed to directly relate to our future clinical experiences. I appreciated the applicable concepts and diseases that we studied. Furthermore, this was one of the only courses that we had this semester that encouraged critical thinking and clinical application. While, this made the class more challenging, I believe I learned the information more thoroughly and i feel more confident about broaching some of the harder topics.

I loved his class. I think a genetics book would be helpful.

Class was very informative but it was difficult to follow not having had genetics as an undergraduate. I think it may have been structured better with more time to be taught in smaller sections at a time.

It is apparent that Dr. Bauer is very passionate about the subject and was genuinely invested in enhancing our understanding of genetics. The assignments correlated closely with the lectures and helped prepare us for exams.

Even though the material was interesting, much of it was not relevant to clinical medicine. Many of the diseases we covered are so rare that the chances of us diagnosing

and treating these conditions in our clinical practice are slim to none. Perhaps another approach to consider would be lecturing on the top 25-50 most common genetic diseases and focusing on making sure we understand how to manage these specific conditions. Providing example PANCE questions pertaining to genetics would also be helpful.

Some students don't have any genetics background, which makes it difficult for all of us to be on the same page.

SWOC Analysis of Course

Strengths:

- Exposes students to the increasing importance of understanding the underlying genetic causes of human disease.
- Students felt the homework questions and test questions went beyond the coverage of material in lecture and expanded their knowledge.
- Assignments and tests required students to understand material rather than memorize it. They also encouraged critical thinking and analytical approaches.
- Students appreciated the inclusion of actual genetic diseases to illustrate and reinforce fundamental concepts.
- Students generally liked the instructor. They felt I was knowledgeable, enthusiastic, and approachable.

Weaknesses:

- Students complained about the relevance of this course and its application to their profession. At least one student expressed concern that none of this material would be on the PANCE.
- The amount of time dedicated to this course was too short. Many requested that it be changed to a stand-alone, full-semester course.
- Some students felt that the course material and PowerPoint lectures were disorganized and did not flow smoothly from topic to topic.
- Students thought the course needed more clinical applications and less conceptual material. Particularly they wanted more information about how to diagnose a genetic disease rather than understanding the causes.
- Students thought that I did not grade homework assignments in a timely manner during the semester.
- Several students felt that the course could have benefited from a required textbook.

Opportunities:

- The students are correct in their assessment regarding the length of the course. This course could be vastly improved by increasing the length.
- The next time I teach the course, I would like to integrate the material to coincide with the material being presented in other medical biology classes.
- Assuming that the length of the course is increased, the disease examples could be expanded to include more clinical information.
- Adding online modules that teach basic genetic concepts could bring students in a class up to the same starting level. Some have had genetics as an undergrad and some have not.
- I would like to increase the number of primary articles I have them read. It would also be good to spend some time in small group or class discussion.
- There are many online resources that provide case studies for genetic diseases on the Internet. I would like to incorporate more of these. This may satisfy those students who desire more diagnostic information.

Challenges:

- A few students were frustrated that the diseases we discussed were “so rare, we’ll never encounter them in clinical practice.” These individuals are failing to realize that the most important information in the course is not the specific disease itself. The specific diseases (whether rare or not) serve as the vehicle for teaching important genetic concepts. Genetic concepts that underlie many different diseases. It is true that they may not encounter some of these diseases during their careers. But it is probably not true that they will never encounter a disease that involves the same genetic concept.
- A particular challenge that I experienced this semester was the amount of time the course required. I did not learn I was teaching this course until three weeks before the semester started. I was also teaching three undergraduate courses at the same time (including a large introductory freshman course. These are the reasons that the lectures may have seemed “disjointed and unorganized” to some. It is also why I took so long grading homework assignments. I take full responsibility of that and there is no doubt I should do better. The students are completely right to hold me to a higher standard on that issue. This is definitely something I will not let slip next time I teach the course.
- The sheer volume of genetic information that is recommended for a PA program is significant and requires more than 8 lectures to cover adequately. In fact, we lost a lecture period to Hurricane Matthew closures, so we

technically had 7 days. Unfortunately, some topics had to be sacrificed. If the length of this course is not increased, this will continue to be a challenge.

- Since PA programs typically do not require an undergraduate genetics course for admission, students will come in with varying degrees of genetic background. This variability means that certain cognitive assumptions on my part can put those students with no background at a disadvantage. In response to this discrepancy, I am considering the creation of some video modules that will teach the basic genetic concepts. These will be available to students online and can be used to support the course material as needed by a student.