

Appendix A4.12

College of Pharmacy and Pharmaceutical Sciences

**Questions from Governor Rick Scott
Response Document for Academic Deans**

Name of College or School: **COLLEGE OF PHARMACY & PHARMACEUTICAL SCIENCES**

Note: The listing of questions A through Q has gaps in the lettering because they correspond to the Governor's request, and the deans are not being asked to respond to every question. Please use the lettering as they appear below for each of your responses.

A. What studies has your university done in the last three years to ensure your graduates are meeting the needs of employers?

The College utilizes an external advisory board as follows:

Apothecary Board of Advisors

BOARD COMPOSITION:

- 1) **Mr. Anthony Stewart**, Pharmacy Supervisor, **Publix**
1700 North Monroe St, Tallahassee, Florida
- 2) **Mrs. Belinda Reed Shannon**, Vice President-**Glaxo Smith-Kline**, 5 Moore Drive, P.O. Box 13398, Research Triangle Park, NC 27709
- 3) **Bob Miller**, CEO, **Healthcare Consultant Pharmacy**, P.O. Box 915726
Longwood, FL 32791
- 4) **Cristina Medina**, PharmD, Professional & College Relations Manager, **CVS Caremark**,
3300 N. Terrace, Hollywood, FL 33020
- 5) **Don Black**, **G.E. Healthcare**, 101 Carnegie Center, Princeton, NJ 08540
- 6) **Jermaine Smith, R.Ph.**, Director, College Relations & Professional Recruitment **Rite Aid**
Pharmacy, 4339 Ebenezer Road Baltimore, MD 21236
- 7) **Kermit R. Crawford**, **President**, Pharmacy, Health and Wellness Division, **Walgreen**
Company Corporate Office, 200 Wilmot Road, Deerfield, IL 60015
- 8) **Kiddy Getachew-Smith**, **Kroger Company**, 2175 Parklake Drive, Atlanta, GA 30345
- 9) **Manuel Littlefield**, **Pharmacy Supervisor**, **Walgreens**, Walgreens 1320 Executive Center
Dr., Ste.302, Tallahassee, FL 32301

10) **Timothy Koch, Wal-Mart** Pharmacy Division, 3802 SW Lone Oak Ave., Bentonville, AR 72712

11) **Tom Henderson, K-Mart** Pharmacy, Pharmacy District Coach-N. FL/GA, 4645 Blanding Blvd., Jacksonville, FL 32210

The Apothecary Board of Visitors is charged with the responsibility of advising the College on the following matters:

- The professional and graduate curricula of the COPPS;
- Technological advancements in the work place for which our graduates should be prepared for;
- The practice of pharmacy and public health now and in the future;
- The enhancement of faculty and programs in the COPPS;
- The positioning of the College to take advantage of future professional and research opportunities;
- Fundraising opportunities;
- Exposure of students to role models in various professions and disciplines;
- Opportunities for clinical research using the College's branch instructional sites' network;
- Expanding postgraduate opportunities in graduate and/or professional schools;
- Networking opportunities with institutions, organizations, and/or companies to expand the students, faculty and alumni professional career options; and
- International venues in which advance training and research experiences can be acquired.

Employer, Alumni, Preceptor and Graduating Student Surveys

The American Association of Colleges of Pharmacy (AACP) and the Accreditation Council for Pharmacy Education (ACPE) established four surveys for use by colleges of pharmacy nationwide. Separate quality perception surveys were created for alumni, preceptors, faculty and graduating students to gather information on program issues and curriculum quality. The purpose of the surveys is to help AACP member colleges and schools gather data for both continuous program

improvement and accountability (accreditation) purposes. These standardized surveys are administered through an online portal, and permits each participating college or school to compare results with specified peer institutions. The FAMU College of Pharmacy & Pharmaceutical Sciences participates in all of these AACP surveys at the recommended time intervals. In addition, the College created and administered surveys to employers in 2006 and again in 2009. The results of all of these surveys offer views on student performance from varying perspectives. All survey results are provided to the Dean's Executive Council, Assessment Committee and other relevant committees (Curriculum, Strategic Planning etc) to address any identified weaknesses.

B. Do you have measureable goals to meet employers' needs? If so, please provide them. How often are these goals updated?

The College of Pharmacy & Pharmaceutical Sciences reports and revises annually on eleven PharmD Student Learning Outcomes, which are based on the following professional competencies and outcome expectations as delineated by our standards listed in the guidelines from the Accreditation Council for Pharmacy Education (ACPE).

Excerpted from Accreditation Council for Pharmacy Education. ***Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree***; Adoption January 15, 2006; Released February 17, 2006; Effective July 1, 2007; Guidelines Version 2.0 Adopted January 23, 2011; Effective February 14, 2011

Standard No. 12: Professional Competencies and Outcome Expectations
Professional pharmacist competencies that must be achieved by graduates through the professional degree program curriculum are the ability to:

1. Provide patient care in cooperation with patients, prescribers, and other members of an interprofessional health care team based upon sound therapeutic principles and evidence-based data, taking into account relevant legal, ethical, social, cultural, economic, and professional issues, emerging technologies, and evolving biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences that may impact therapeutic outcomes.
2. Manage and use resources of the health care system, in cooperation with patients, prescribers, other health care providers, and administrative and supportive personnel, to promote health; to provide, assess, and coordinate safe, accurate, and time-sensitive medication distribution; and to improve therapeutic outcomes of medication use.
3. Promote health improvement, wellness, and disease prevention in cooperation with patients, communities, at-risk populations, and other members of an interprofessional team of health care providers. These professional competencies must be used to guide the development of

stated student learning outcome expectations for the curriculum. To anticipate future professional competencies, outcome statements must incorporate the development of the skills necessary to become self-directed lifelong learners.

Guideline 12.1

Graduates must possess the basic knowledge, skills, attitudes, and values to practice pharmacy independently at the time of graduation. In this regard, the college or school must ensure that graduates are competent (adapted from CAPE Educational Outcomes, 2004) at a minimum, to:

- *provide patient-centered care*, through the ability to:
 - design, implement, monitor, evaluate, and adjust pharmacy care plans that are patient-specific; address health literacy, cultural diversity, and behavioral psychosocial issues; and are evidence-based
 - function effectively as a member of an interprofessional care team manage a successful patient-centered practice (including establishing, marketing, and being compensated for medication therapy management and patient care services rendered)
- *provide population-based care*, through the ability to develop and implement population-specific, evidence-based disease management programs and protocols based upon analysis of epidemiologic and pharmaco-economic data, medication use criteria, medication use review, and risk-reduction strategies
- *manage human, physical, medical, informational, and technological resources*, through the ability to ensure efficient, cost-effective use of these resources in the provision of patient care
- *manage medication use systems*, through the ability to apply patient- and population-specific data, quality improvement strategies, medication safety and error reduction programs, and research processes to minimize drug misadventures and optimize patient outcomes; to participate in the development of drug use and health policy; and to help design pharmacy benefits
- *promote the availability of effective health and disease prevention services and health policy* through the ability to apply population-specific data, quality improvement strategies, informatics, and research processes to identify and solve public health problems and to help develop health policy
- To be capable of the above, pharmacy graduates also must be able to:
 - communicate and collaborate with patients, care givers, physicians, nurses, other health care providers, policy makers, members of the community, and administrative and support personnel to engender a team approach to patient care
 - retrieve, analyze, and interpret the professional, lay, and scientific literature to provide drug information and counseling to patients, their families or care givers, and other involved health care providers
 - evaluate the quality of basic science and clinical research evidence to appropriately apply study results to practice decisions
 - demonstrate expertise in informatics

- carry out duties in accordance with legal, ethical, social, economic, and professional guidelines
- maintain professional competence by identifying and analyzing emerging issues, products, and services

Standard No. 13: Curricular Core—Knowledge, Skills, Attitudes, and Values

To provide the thorough scientific foundation necessary for achievement of the professional competencies, the curriculum of the professional degree program must contain the following:

- **biomedical sciences**
- **pharmaceutical sciences**
- **social/behavioral/administrative sciences**
- **clinical sciences**

Knowledge, practice skills, and professional attitudes and values must be integrated and applied, reinforced, and advanced throughout the curriculum, including the pharmacy practice experiences.

See Appendix B: Additional Guidance on the Science Foundation for the Curriculum

The PharmD student learning outcomes for the FAMU College of Pharmacy & Pharmaceutical Sciences are listed in the grid below along with measurement criteria and results from the 2010/11 reporting period.

PharmD Student Learning Outcomes	Criterion	Results
1. The student should be able to communicate verbally and in writing with patients, caregivers and other health care practitioners.	90% satisfactory rating	<p>Direct Criteria: 130 (100%) out of 130 students were graded as competent in at least one of their required professional rotations for the following subcompetencies: <i>7d. Provides accurate and pertinent information in appropriate detail.</i> <i>9c. Communicates correct information that is understood and useable by the audience</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> ● <i>Communicate with health care providers - 90% agreed</i> ● <i>Communicate with patients and caregivers – 93% agreed</i>
2. The student should be able to participate in drug-use decision-making process assisting patients and health care professionals in the establishment of therapeutic and diagnostic outcomes.	90% satisfactory rating	<p>Results of Direct Criteria for Success: 130 (100%) of 130 P4 students received a satisfactory or better in SUCCESS competencies 4a and 4b from their preceptor on at least one of their six required rotations. <i>4a. Identifies and suggests appropriate therapeutic endpoints for patient (cure, maintenance, or prophylaxis of disease).</i> <i>4b. Develops monitoring plan appropriate for patient specific physiologic differences.</i></p> <p>Results of Indirect Criteria for Success:</p>

		<p>From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> • <i>Gather and use information to identify patient med-related problems – 89% agreed</i> • <i>Develop a care plan to manage each problem – 89% agreed</i> • <i>Work with care team to implement care plan – 89% agreed</i> • <i>Document pharmaceutical care activities – 90% agreed</i> • <i>Manage system of med use to affect patients – 90% agreed</i>
3. The student should be able to demonstrate knowledge of the drug-use process by counseling patients and advising other health care professionals	90% satisfactory rating	<p>Results of Direct Criteria for Success: 133 (100%) of 133 P4 students received a satisfactory or better in SUCCESS competencies 7j and 11h from their preceptor on at least one of their six required rotations. <i>7j. Retrieves and evaluates new information for the purpose of responding to patient questions</i> <i>11h. Provides accurate, organized, and pertinent information relevant to the team's current or future tasks.</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> • <i>Communicate with health care providers – 90% agreed</i> • <i>Communicate with patients and care givers – 93% agreed</i> • <i>Manage system of med use to affect patients – 90% agreed</i>
4. The student should be able to make clinical decisions to identify and solve drug-related problems in a logical and coherent manner.	90% satisfactory rating	<p>Results of Direct Criteria for Success: 130 (100%) of 130 P4 students received a satisfactory or better in SUCCESS competencies 4d or 4e from their preceptor on at least one of their six required rotations. <i>4d. Evaluates and alters monitoring plan when necessary as the patient's needs change.</i> <i>4e. Identifies monitoring results, which would require emergency medical attention.</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> • <i>Gather and use information to identify patient med-related problems – 89% agreed</i> • <i>Develop a care plan to manage each problem – 89% agreed</i> • <i>Identify and use risk reduction strategies to minimize medication errors – 87% agreed</i>
5. The student should be able to plan, organize, direct and control (i.e. manage) pharmaceutical care systems and resources.	90% satisfactory rating	<p>Results of Direct Criteria for Success: 127 (95%) of 133 P4 students received a satisfactory or better in SUCCESS competencies 1h or 1i from their preceptor on at least one of their six required rotations. <i>1h. Applies ordering, purchasing and inventory control principles.</i> <i>1i. Abides by laws on storage and disposal of medication.</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p>

		<i>Manage system of med use to affect patients – 90% agreed</i>
6. The student should be able to integrate ideas, information and skills to provide optimum pharmaceutical care.	90% satisfactory rating	<p>Results of Direct Criteria for Success: 100% of P4 students received a satisfactory or better in SUCCESS competencies 3d or 3e from their preceptor on at least one of their six required rotations. <i>3d. Designs and evaluates treatment regimens for optimal outcomes using pharmacokinetic data and drug formulation data.</i> <i>3e. Designs and evaluates treatment regimens for optimal outcomes using disease states and previous or current drug therapy as well as including psycho-social, ethical-legal, and financial data.</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> • <i>Develop a care plan to manage each problem – 89% agreed</i> • <i>Work with stakeholders to engender a team approach to assure appropriate use of health care for patient – 92% agreed</i>
7. The student should be able to provide high quality pharmaceutical care utilizing ethical and moral standards.	90% satisfactory rating	<p>Results of Direct Criteria for Success: 100% of P4 students received a satisfactory or better in SUCCESS competency 12b from their preceptor on at least one of their six required rotations. <i>12b. Demonstrates knowledge and understanding of the pharmacist "code of ethics".</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> • <i>Provide patient care in accordance with legal, ethical and professional guidelines – 96% agreed</i> • <i>Included opportunities to develop professional attitudes, ethics and behaviors – 92% agreed</i>
8. The student should be able to demonstrate the ability to continually update their knowledge base as changes in pharmaceutical care occur.	90% satisfactory rating	<p>Results of Direct Criteria for Success: Direct Measure(s) 100% of P4 students received a satisfactory or better in SUCCESS competencies 12i from their preceptor on at least one of their six required rotations. <i>12i. Initiates additional learning opportunities.</i></p> <p>Results of Indirect Criteria for Success: From the 2011 AACP Graduating Student Survey:</p> <ul style="list-style-type: none"> • <i>I developed the skills needed to prepare me for continued learning after graduation – 83% agreed</i>
9. The student shall participate in activities that emphasize disease prevention, health promotion, patient safety, and health literacy	90% satisfactory rating	<p>Results of Direct Criteria for Success: Direct Measure(s) 98% of P4 students received a satisfactory or better in at least one of the following SUCCESS competencies 2e, 2f, 4a, 13a and 13d from their preceptor on at least one of their six required rotations. <i>2e. Assesses the needs of the target population relative to disease prevention/detection.</i></p>

		<p>2f. Selects and implements an appropriate strategy to prevent (i.e. immunizations) or detect (i.e. blood cholesterol screening) disease in the target population</p> <p>4a. Identifies and suggests appropriate therapeutic endpoints for patient (cure, maintenance, or prophylaxis of disease).</p> <p>13a. Assesses the religious and socio-economic value systems that affect need and adherence.</p> <p>13d. Identifies appropriate alternative measures to improve verbal and non-verbal interactions between patient and pharmacist.</p> <p>Results of Indirect Criteria for Success: From the 2011 AACPD Graduating Student Survey: <i>The PharmD Program prepared me to</i></p> <ul style="list-style-type: none"> Promote wellness and disease prevention services – 96% agreed
10. Graduating seniors will demonstrate the ability to critically think, analyze, and solve problems to make judgment and pharmacy decisions.	Increase performance from admission.	<p>Results of Direct Criteria for Success: 100% of P4 students received a satisfactory or better in SUCCESS competency 12j from their preceptor on at least one of their six required rotations.</p> <p>12j. Synthesizes new information in order to draw conclusions, hypothesizes, or decides a course of action.</p> <p>Results of Indirect Criteria for Success: Results from the Health Sciences Reasoning test administered to P3 students have indicated improvement in critical thinking skills each year during their 3 years in the professional program. They scored 16.24 as P1 students, 17.86 as P2 students and 18.29 in their P3 year.</p>
11. NAPLEX Preparedness: Graduates will be prepared to sit for the NAPLEX Exam.	The first time pass rate on the NAPLEX exam will meet or exceed the national average.	<p>Results of Direct Criteria for Success: NAPLEX first time pass rate for FAMU during 2010 was 72.2% compared to the national average was 94.3% MPJE first time pass rate for FAMU during 2019 was 80.0% compared to the national average of 95.0%</p> <p>Results of Indirect Criteria for Success: 100% of P4 students passed the comprehensive exam administered during their final year</p>

C. Do you have measurable goals for each graduate in the areas of writing proficiency and critical thinking? If so, please send them to me with the goals and include the results for the last five to ten years.

PharmD Goal #1. The student should be able to communicate verbally and in writing with patients, caregivers and other health care practitioners.

Indicator Used – Percent of students who achieved a satisfactory or better rating from their preceptor on the following sub-competencies during their Advanced Pharmacy Practice

Experience as reported on the System of Universal Clinical Competency Evaluation in the Sunshine State (SUCCESS).

7d. Provides accurate and pertinent information in appropriate detail.

9c. Communicates correct information that is understood and useable by the audience

2011	2010	2009	2008
100%	97%	100%	95%

PharmD Goal #10. Graduating seniors will demonstrate the ability to critically think, analyze, and solve problems to make judgment and pharmacy decisions.

Indicator Used – Percent of students who achieved a satisfactory or better rating from their preceptor on the following sub-competencies during their Advanced Pharmacy Practice Experience as reported on the System of Universal Clinical Competency Evaluation in the Sunshine State (SUCCESS).

12j. Synthesizes new information in order to draw conclusions, hypothesizes, or decides a course of action.

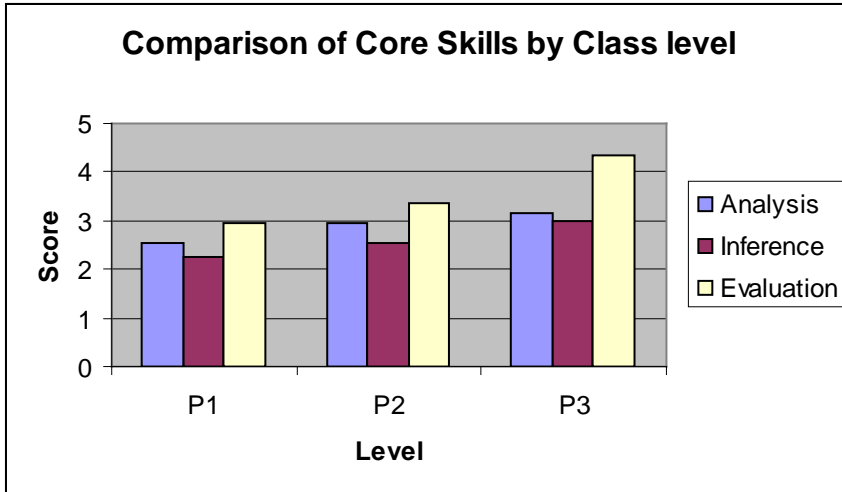
2011	2010	2009	2008
100%	99%	99%	80%

E. Are professors required to integrate writing proficiency and critical thinking into all courses? If so, what oversight is provided to ensure that these skills are being taught? How are these skills integrated into course assessments?

Course reviews by the Course Review sub-committee of the Curriculum committee ensure that the courses where these skills should be integrated include appropriate exercises and assessments (such as case studies, self-reflection papers, classroom and conference presentations).

Mechanisms to ascertain success include:

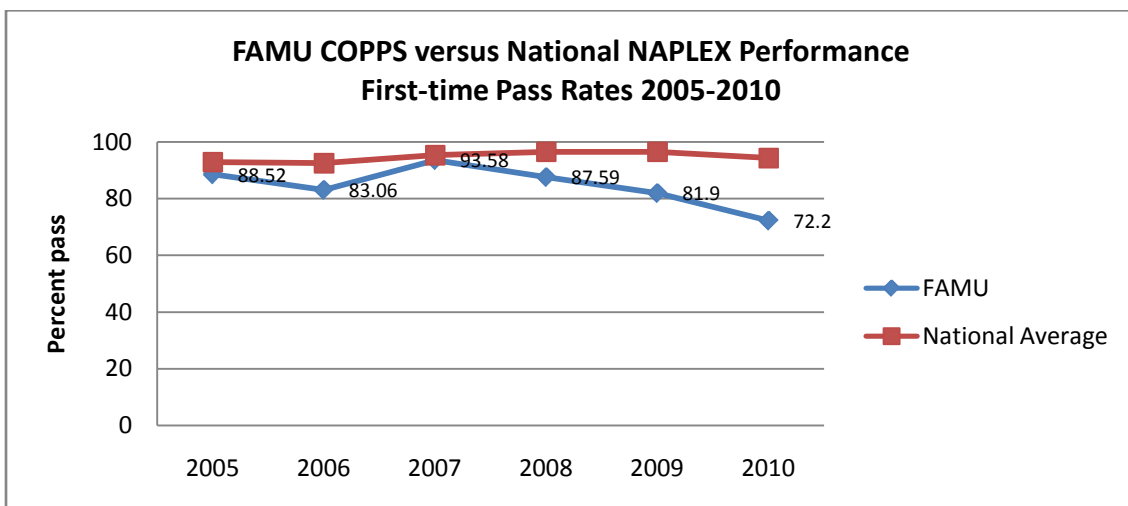
1. Health Sciences Reasoning Test is administered to students at different matriculation levels in the professional program. The results from this test enable us to compare student critical thinking performance by type and level. The chart below illustrates how our students ability to think critically is enhanced as they matriculate through the curriculum, and provides guidance on what areas we can work on to improve their skills.



2. **RXPortfolios** are an online electronic portfolio system that the students are required to utilize. Each student sets up their individualized portfolio and updates it with any projects or presentations during their matriculation, in addition to professional experiences acquired during their final year of clinical rotations known as Advanced Pharmacy Practice Experiences (APPE).

F. Do you have measurable goals for student success after graduation? If so please send me the goals and the results for the last five to ten years.

PharmD Goal #11: The first time pass rate of graduates on the North American Pharmacist Licensure Examination (NAPLEX) exam will meet or exceed the national average.



H. Do you have measurable goals for the number of graduates with specific degrees such as science, technology, engineering, mathematics, nursing, etc? If so, please send me the goals and the results for the last five to ten years.

The College of Pharmacy & Pharmaceutical Sciences has the following graduate programs:

1. MS in Pharmaceutical Sciences
2. PhD in Pharmaceutical Sciences
3. Masters of Public Health (MPH)
4. Dr of Public Health (DPH)

The College goals for the graduate program include:

Goal 1: Produce pharmaceutical scientists, who through teaching, research and service, contribute to the body of pharmaceutical knowledge.

Goal 2: Promote pharmaceutical research and knowledge generation through the acquisition of extramural funding and published research data.

In order to measure these goals, the college has six outcomes for the Graduate Program.

Graduate Program Outcomes	Criterion	Results for 2010/11
1. Provide Pharmaceutical Education at the undergraduate level	100% of graduate students will participate in undergraduate teaching during their matriculation	100% of graduating Ph D students participated in undergraduate teaching during their matriculation 94% of Ph D graduate students rated themselves as proficient in undergraduate teaching
2. Graduate students will progress in a timely manner.	80% of graduate students will have satisfactory progression as rated by their major advisor	MS Students who are judged as progressing in a timely manner by their major advisors and also by self
3. Graduate Students will be able to conceive, design, conduct and interpret independent research	50% of MS & PhD students will submit abstracts to major professional meetings each year	94% of PhD of graduate students submitted research abstraction for presentation at a national meeting. 94% of PhD graduate students rated themselves as proficient in conceiving, designing, conducting, and interpreting independent research.
4. Graduate Students will publish research findings in refereed indexed national and	20% of MS students and 40% of PhD students will submit a manuscript for	During the academic year, 56% of PhD students submitted a manuscript for publication 83% of Ph D graduate students rated themselves as

international periodicals	publication	proficient in publishing research in scientific periodicals
5. Graduate students will articulate, communicate and present research findings at local, national or international scientific meetings	100% of MS & PhD students will make presentation at a professional meeting at least once during their graduate program	100% of graduating PhD students made a presentation at a professional meeting at least once during their graduate program 100% of Ph D graduate students rated themselves as proficient in articulating, communicating and presenting research at national scientific meetings
6. Ph D graduates will compete successfully for external funding (i.e. internship, fellowship, trainingship, or thesis/dissertation funding)	80% of Ph.D candidates will apply for external funding support, and 20% of Ph.D candidates will received external funding support	7 out of 14 (50%) PhD candidates submitted applications for external funding and 1 out of 14 (7%) received funding. 9 out of 14 (64%) PhD candidates rated themselves as proficient in competing successfully for external funding

M. What programs do you have to educate students regarding job opportunities? What are your measurable goals for each program? Do you use information similar to the data available for the Florida Education and Training Placement Information Program (FETPIP) to prepare students prior to admission and prior to selection of major? Please provide me the results for the last five to ten years.

The FAMU College of Pharmacy & Pharmaceutical Sciences recently celebrated its 29th year career fair as an annual event. Each year, more than 100 representatives from hospitals, retail pharmacy, government and the pharmaceutical industry visit Tallahassee to offer internships and permanent job placements to Florida A&M University College of Pharmacy and Pharmaceutical Sciences students and alumni. The Career Fair is designed to expose students to opportunities within the pharmacy profession. By participating in the career fair, pharmacy students get immediate consideration for internships and job placements. The career fair also enables recruiters to get a one-stop-shop for professionals seeking to fill the voids in the pharmacy profession. At least four out of every five students who interview at the annual career fair are offered jobs. These positions range from those in research, government, mail order, retail, community and hospital pharmacy and the U.S. Military. The industry and corporate companies include, but not limited to the following: Eli Lilly, Shands Hospital, Walgreens, Capital Regional Medical Center, Winn-Dixie, U.S. Army Healthcare, U.S. Air force

Health Professions, Albertsons, Publix, Rite Aid Corporation, CVS, K-Mart, the Mayo Clinic, Wal-Mart, among others.