

Graduate Education in Pharmacy Schools: Pharmacy Administration

Department Chair: Donna West, RPh, PhD
Associate Professor, Department of Pharmacy Administration
662-915-1071
dswest@olemiss.edu

Presentation developed by:
Noel E. Wilkin, R.Ph., Ph.D.
Associate Provost
Associate Professor, Department of Pharmacy Administration

Questions Addressed in this Presentation

- What is a pharmacy degree? What is an MBA degree? What is a graduate degree? And how are these different?
- Should I go straight into a PhD program or a program that offers a Masters and PhD?
- What is a stipend?
- Does a large stipend indicate a quality program?
- How do I judge the quality of a graduate program?
- Do I need to consider cost of living?
- What is a post-doc and will I need to do one after I finish graduate school?
- What are the different pharmaceutical disciplines that offer graduate degrees?
- What is a center of excellence?
- What is the pharmacy administration graduate program like at the University of Mississippi?
- What is required to apply?
- What is a statement of purpose?

Types of Degrees

Pharmacy Degree (PharmD)

- The Doctor of Pharmacy (PharmD) is a professional degree
- Physicians earn a Doctor of Medicine (MD) degree to practice medicine
- Pharmacists earn a Doctor of Pharmacy (PharmD) degree to practice pharmacy
- Both the Doctor of Pharmacy and Doctor of Medicine degrees are professional clinical degrees, enabling one to enter that clinical discipline as a practicing professional

Pharmacy Degree (PharmD)

- Pharmacists
 - Work with patients to improve use of medications
 - Perform disease state management
 - Promote optimal drug therapy
 - Dispense medications
 - Design drug benefits
 - Review medications for formulary inclusion
 - Other tasks that require extensive drug and disease knowledge
- People with this clinical degree work in a number of different organizations; most become licensed pharmacists and work for a retail pharmacy (community pharmacy) or a hospital pharmacy
- To obtain information about earning a PharmD degree, visit the School of Pharmacy Website:
<http://www.pharmacy.olemiss.edu/ap/undergrad/index.html>

Master of Business Administration (MBA)

- An MBA is a business degree
- This graduate education experience teaches you the skills to operate and manage all aspects of a business
- Just like the PharmD trains one to practice pharmacy, in some respects the MBA enables you to “practice” the administration of business
- Most MBA programs offer a non-thesis degree, which is different than a graduate degree that teaches you to create new knowledge
- This degree is offered by business schools at many universities
- To get information about our Business School’s MBA program please visit: <http://www.olemissbusiness.com/mba/>

Graduate Degree

- Our graduate program in Pharmacy Administration offers both the Master of Science in Pharmaceutical Sciences degree and Doctor of Philosophy in Pharmaceutical Sciences degree, both with an emphasis in Pharmacy Administration
- Research-based graduate education trains you ***to conduct research*** in a given area and create new knowledge
- The MS and PhD degrees provide the skills necessary to conduct studies in a specific area that will create new knowledge in a way that it stands up to peer review by experts in the field to ensure high standards

What is Research?

- Simply put...
 - Science is a systematic way of discovering new facts and information
 - Problem solving using hunches and systematic approaches to testing those hunches
- Research is the process of identifying questions or problems in a given area, designing studies to systematically investigate those questions and problems, conducting those studies, and providing findings that in some ways answer the questions or problems

Kerlinger, FN. (1986) **Foundations of Behavioral Research.**
New York: Harcourt Brace

Graduate Degrees (MS and PhD)

- By earning an MS or PhD, one learns the skills to conduct research
- These are the two graduate degrees offered in most schools of pharmacy – Master of Science and Doctor of Philosophy
- Master of Science degree (MS)
 - This is a research-based graduate degree that one earns after a Bachelor's degree
 - This usually teaches the basic research skills of a given discipline
 - It also provides an opportunity to conduct a guided research project (a thesis)

Graduate Degrees (MS and PhD)

- Doctor of Philosophy (PhD)
 - This is the highest possible degree awarded by U.S. colleges and universities
 - Like other degrees, a PhD can be earned in a number of different disciplines
 - This degree signals that an individual knows a given discipline very well, has the skills to create knowledge in that discipline, and has the ability to conduct independent research in that discipline
 - Most faculty in universities are required to have a PhD

MS or PhD?

- Some programs offer a graduate program that allows one to earn the PhD without stopping to earn the MS degree
- In this instance, one typically learns the same information (takes all of the classes), and does not write a Masters thesis and does not earn the MS degree

MS or PhD?

- What is a thesis?
 - A thesis is a research project to create new knowledge that is conducted under the direction of a thesis advisor (faculty member)
 - In our program, this advisor may not be your sole faculty contact during the program; he/she is selected for the project based on mutual interest
 - This thesis project enables the student to use the skills that are being learned in the courses
 - The thesis is generally smaller scale and has more faculty member direction than a dissertation (which is conducted during a PhD program)
- A complete list of theses completed in our department through 2004 can be found at:

<http://www.pharmacy.olemiss.edu/phad/theses.pdf>

MS or PhD?

- The PhD program also requires
 - courses that further advance one's knowledge of a given content area and one's skills in designing, conducting, and reporting research
 - Passing an oral & written comprehensive exam demonstrating knowledge of a given area and research skills necessary to conduct research
 - A dissertation
- A PhD is necessary for most non-clinical positions in academia

MS or PhD?

- What is a Dissertation?
 - The dissertation is the capstone research project conducted by the doctoral student
 - It is an **independent** research project that is guided by a dissertation advisor and a committee
 - It is an opportunity for the student to demonstrate to the faculty that he/she has the knowledge and skills necessary to conduct independent research and create new knowledge in a given area
 - It is different from the thesis in that it is
 - More comprehensive than a thesis
 - Independent research with less faculty assistance/guidance
 - A way of demonstrating one's readiness to advance knowledge in a given discipline
- A complete list of dissertations completed in our department can be found at:
<http://www.pharmacy.olemiss.edu/phad/dissertations.pdf>

MS or PhD?

Thesis

- Ideally, original research that creates new knowledge
- Less comprehensive than a dissertation
- More limited scope than dissertation
- Demonstrates ability to use research and analytical techniques
- Conducted with more guidance from a faculty advisor than a dissertation

Dissertation

- Original research
- Must create new knowledge that answers a question and advances knowledge in a given area
- Is independent research with less faculty assistance and guidance
- Demonstrates one's ability to think critically and conduct independent research

Factors to Consider when Examining Graduate Programs

How can I afford to earn a PhD?

- Most graduate programs offer a **stipend**
- This is a way to actually be paid to earn additional education!
- A stipend is a salary that a graduate student receives in exchange for doing a job within the department.
- This stipend can be for helping a faculty member teach (teaching assistant) or for helping a faculty member to do research (research assistant).
- A full-time stipend is 20 hours per week in the Department of Pharmacy Administration.
- A student will generally spend another 20 hours per week in courses, studying, doing course work, and working on other research projects.
- Being a graduate student is a full-time job.
 - 20 hrs stipend + 20 hrs coursework = 40 hrs per week
 - (It is not unusual for graduate students to spend more than 40 hours per week engaged in the program given their interests, study habits, and research projects.)

Stipends

- The amount of the stipend salary is dictated by a number of factors; mainly it is dictated by the funding that is obtained by faculty members in the department or how much the University provides its programs to pay graduate students.
- Stipends are dependent on the funding obtained and availability of funds within the department.

Stipends

- The stipend is used to help cover the costs of living while going to graduate school.
- Additionally, the work performed for the stipend provides valuable experience to the students enrolled in the graduate program.
- Full-time stipends in the Department of Pharmacy Administration also include a tuition scholarship that covers nearly all of the tuition costs.
- In addition the Graduate School covers 50% of your health insurance premium. (Health insurance is required of all graduate students and is offered through the Graduate School.)

Stipends

- Full-time stipends in the Department of Pharmacy Administration also include a tuition scholarship that covers nearly all of the tuition costs.
- In addition the Graduate School covers 50% of your health insurance premium. (Health insurance is required of all graduate students and is offered through the Graduate School.)
- **The amount of the stipend is not necessarily related to the quality of the graduate program.**
- Sometimes the best stipends are paid by the weak graduate programs in an attempt to get students to enroll.
- The stipend paid by our program is adequate to permit comfortable living in Oxford, MS, given its cost of living.
- Being a graduate student is a full-time, 40-hour per week commitment.
- As a student in our program, the faculty expects you to participate in the scholarly activities being conducted within the Department in addition to taking courses; the stipend pays you for that participation.

Accepting a Stipend Offer

- **Members of the Council of Graduate Schools have agreed to a resolution regarding financial support to graduate students.**
 - “Acceptance of an offer of financial support (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by a prospective or enrolled graduate student completes an agreement that both student and graduate school expect to honor. In that context, the conditions affecting such offers and their acceptance must be defined carefully and understood by all parties.
 - Students are under no obligation to respond to offers of financial support prior to April 15; earlier deadlines for acceptance of such offers violate the intent of this Resolution. In those instances in which a student accepts an offer before April 15, and subsequently desires to withdraw that acceptance, the student may submit in writing a resignation of the appointment at any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer.”
- <http://www.cgsnet.org/portals/0/pdf/CGSResolutionMay2009.pdf>

Quality of a Graduate Program

- Quality of a graduate education is difficult to assess
- It is dependent on the quality of the faculty who teach the courses, provide research opportunities, and advise the students
- It is dependent on the resources available to students while in the program
 - We provide all students with space, a computer, and the resources necessary to efficiently and effectively participate in research and take courses
- It is also dependent on the quality of the students enrolled in the program.

Importance of Collegiality

- Collegiality is an important consideration. How well the faculty get along with each other and the students will affect collaborations within the department, and the overall graduate education experience
- Collegiality also includes treating students with respect and allowing them to be significant contributors to activities within the department
- Collegiality fosters the process of learning to be an independent thinker and researcher (rather than property of a faculty member)
- Collegiality extends to other departments in the University
 - Research does not occur in a vacuum and quality programs conduct research that includes scientists from complementary disciplines (these can be at the same university or different universities)
 - For example, we have joint appointees from 2 other schools on campus and have conducted research projects with faculty members from other departments on campus
 - Also, if the department has high quality courses other departments on campus will have the faculty serve on their committees and will take their courses (particularly research skills classes)

How do I evaluate collegiality?

- Ways to assess collegiality and quality is to answer the following questions:
 - The faculty who are publishing, are they publishing together?
 - Are the students authors on the publications and presentations?
 - Are the faculty and the program funded and what roles do students and faculty members play on those funded projects?
 - What collaborations exist with other departments on campus?
 - Do students in OTHER disciplines take the courses in the department?
- One can also e-mail the students and ask them about their experience in the program (in fact our graduate students encourage you to do so). They will often be very direct in their responses.

The Importance of Location

- In addition to the quality of the program, one should consider the cost of living. To live in New York or another large, US city will cost a lot more than living in a small, college town.
- The stipends offered by our program are more than sufficient to permit comfortable living and recreation in Oxford, MS.
- Oxford is a small, college town with cultural events, sporting events, and activities <http://www.oxfordms.net/>
- “Oxford has been named by [*USA Today*](#) as one of the top 6 college towns in the nation and is included in The Best 100 Small Towns in America. Lafayette County consistently leads the state rankings in the lowest unemployment rate per quarter. Both Oxford city and Lafayette County school systems are consistently ranked as "5-star" systems; the highest rating available.” [http://en.wikipedia.org/wiki/Oxford, Mississippi](http://en.wikipedia.org/wiki/Oxford,_Mississippi)

Will I need to do a post-doc after graduate school?

- A post-doc is a post-doctoral experience
- It is a job that many PhDs will have to earn after earning the PhD degree
- It is sort of like on-the-job training
- It is generally a research position working under the direction of a PhD faculty member
- Post doc positions pay more than a graduate student stipend
- Post docs are full time employees who receive benefits and health insurance
- **Very few jobs requiring a PhD in Pharmacy Administration require completion of a post-doc**

The University of Mississippi

Disciplines in the School of Pharmacy

- In addition to Pharmacy Administration the following disciplines offer graduate degrees in The University of Mississippi School of Pharmacy:
 - Environmental Toxicology
 - Medicinal Chemistry
 - Pharmaceutics
 - Pharmacognosy
 - Pharmacology

Pharmacy Administration

- The Department of Pharmacy Administration consists of social and behavioral scientists who apply and develop theories to understand aspects of the health care arena and its participants. Specifically they are interested in pharmaceuticals or pharmacy.
- Examples of specific areas of inquiry include the marketing and economics of pharmaceuticals, pharmacoepidemiology, patient and provider behaviors in the health care system, medication use outcomes. management strategies within health systems, the health outcomes and economics associated with using pharmaceuticals, and the roles of pharmacists in delivering and managing health care.

Other Disciplines

Environmental Toxicology

- **Environmental Toxicology** seeks “to understand the effects of environmental contaminants and stressors on human health and environmental quality. The program goal is to contribute scientific information that will allow economic growth to occur in a climate of quality, cost-effective health services and ecologically meaningful environmental stewardship.”

<http://www.pharmacy.olemiss.edu/etrp/gradprogram.html>

Other Disciplines

Medicinal Chemistry

- “**Medicinal Chemistry** is a chemistry-based discipline, also involving aspects of biological and pharmaceutical sciences. As defined, it is concerned with the invention, discovery, design, identification and preparation of biologically active compounds, the study of their metabolism, the interpretation of their mode of action at the molecular level and the construction of structure activity relationships.”

http://www.pharmacy.olemiss.edu/medicinal_chemistry/index.html

Other Disciplines

Pharmacology

- “**Pharmacology and Toxicology** involve aspects of the action and interaction of drugs, chemicals and physical agents with biological systems and their constituent parts. This includes topics ranging from understanding the mechanisms of action of therapeutic and hazardous substances to the preservation and protection of health and the environment.”

<http://www.pharmacy.olemiss.edu/pharmacology/index.html>

Other Disciplines

Pharmaceutics

- “**Pharmaceutics** is the study of drug dosage forms. A graduate degree in this area will prepare you to discover and create novel dosage forms based on the chemical properties of the drugs and ways to enable their delivery to specific sites of the body. This department educates PhD graduates with scientific competence in areas of expertise that include pre-formulation, formulation, pharmaceutical processing and novel drug delivery systems.”

<http://www.pharmacy.olemiss.edu/pharmaceutics/>

Other Disciplines

Pharmacognosy

- “**Pharmacognosy** (chemistry and biology of natural products) is the study of bioactive natural substances found in terrestrial and marine organisms (plants, animals, or microbes).”

<http://www.pharmacy.olemiss.edu/pharmacognosy/index.html>

Pharmacy Administration at The University of Mississippi

Pharmacy Administration

- “Pharmacy Administration was first listed as a separate unit of The University of Mississippi School of Pharmacy in the Bulletin (University Catalog) in 1952-53.”
- “In May, 1964 Dr. Eugene Watkins received the first Ph.D. in Pharmacy Administration. (This was also the first PhD to be awarded in the history of the School of Pharmacy).”
- A detailed history of the department written by Dr. Dewey Garner can be seen at:
<http://www.pharmacy.olemiss.edu/phad/depthist.html>

Program Objectives

- The graduate program in Pharmacy Administration has the following objectives for its graduate program.
 - To prepare highly qualified graduate students for careers in academia, industry, and other settings with training in management, marketing, and economics of pharmaceuticals and pharmacy practice
 - To maintain highly productive teaching and research programs that facilitate the acquisition of abilities necessary to create new knowledge
 - To maintain a leadership role in state and national organizations relevant to the discipline
 - To provide consultative services to pharmacists, the pharmaceutical industry, and other interested entities in the areas of faculty and graduate student expertise

Centers of Excellence

- When a department or school has a well-recognized expertise, they are able to create a center of excellence in that expert area
- A center is generally a research-extensive unit that conducts research and performs other activities that focuses on advancing and disseminating knowledge in a specific area
- Our department has created the Center for Pharmaceutical Marketing and Management, which is in the Research Institute of Pharmaceutical Sciences.
<http://www.umcpmm.org>
- These centers often have valuable relationships, research opportunities, and contacts that complement the activities of the departmental faculty

Career Opportunities in Pharmacy Administration

- The graduate program in Pharmacy Administration at the University of Mississippi affords excellent career opportunities in a variety of settings and has maintained an exceptional track record in placing graduates.
- Graduates of the program have obtained positions in academia, the pharmaceutical industry, managed care organizations, professional associations, consulting and marketing research firms, government agencies, hospitals, and health care journal publication agencies.

Career Opportunities in Pharmacy Administration

- In academia, the Pharmacy Administration graduate program at The University of Mississippi has produced several chairs of Pharmacy Administration Departments and deans of pharmacy schools nationwide.
- In the pharmaceutical industry, many alumni have quickly risen to senior management positions in marketing, health/pharmaceutical economics, and pharmacy affairs.
- Other graduates of the program have secured key positions in the federal and state governments and professional associations in pharmacy.

Admission Requirements

Pharmacy Administration

- In making admission decisions the faculty consider each applicant's:
 - GPA based on college transcripts (Graduate School requirement is 3.0)
 - GRE Scores (in some instances GMAT scores may be considered in lieu of the GRE) – School Code is 1840 (GRE scores are valid for 5 years)
 - Three letters of recommendation – these should come from faculty members with whom you have studied or employers/supervisors with whom you have worked
 - Statement of purpose
 - CV/resume (include previous experience-work experience in pharmacy or healthcare is preferable, and not necessarily required.)
 - International applicants also must take the TOEFL examination and score at least 600 (paper-based test); 100 on the internet-based test; or 250 on the computer-based test.
- **The deadline for submission of these materials is February 1.**
- All admissions are to begin during the following Fall term (August). The sequential nature of our curriculum prohibits Spring term starts, except for special circumstances.

Statement of Purpose

- Often the transcripts, letters of recommendation, and GRE scores fail to capture important characteristics that the individual offers our graduate program in Pharmacy Administration
- This is a short essay in which an applicant reflects on the contribution of the graduate degree to his/her future and the special characteristics that he/she brings to the graduate program
- We are interested in value-added experiences, both from the program to the student and from the individual student to the program
- The typed Statement of Purpose (about 400 words) should address the following:
 - Why have you chosen to pursue the graduate degree with an emphasis in Pharmacy Administration?
 - How will these studies help you attain your career goals?

Application Process

- You may apply to our program or get application information from the University of Mississippi Web site:
<http://www.olemiss.edu/gradschool/applyonline.php>
- The official transcripts and GRA/TOEFL scores should be mailed to:
**The Graduate School
The University of Mississippi
PO Box 1848
University, MS 38677-1848 USA**
- The Statement of Purpose, CV, and 3 letters of recommendation should be mailed to:
**Dr. Donna West
The University of Mississippi School of Pharmacy
PO Box 1848
Faser Hall, Room 223
University, MS 38677 USA**

Application Process

- After receiving your complete application packet, the faculty review the applications.
- The top candidates are interviewed, either via telephone or face-to-face during a campus visit.
- Offers are made to the top candidates.
- Once an offer is made, applicants must accept before the deadline.

Helpful Links

- [Graduate School Website](#)
- [Online Application](#)
- [Departmental Website](#)
- [Center for Pharmaceutical Marketing and Management](#)
- [Standardized Test Information](#)
- [Graduate Catalog](#)
- [The Graduate School's FAQ page](#)

Contact Information

Donna West, R.Ph., Ph.D.

Chair and Associate Professor of Pharmacy Administration

The University of Mississippi

School of Pharmacy

Faser Hall, Room 223

University, MS 38677

662-915-7262

662-915-5102 fax

dswest@olemiss.edu

<http://www.pharmacy.olemiss.edu/phad/index.html>